DOCUMENT RESUME

ED 303 932 EC 212 127

TITLE	Toward Equality: Education of the Deaf. A Report to the President and the Congress of the United States.
INSTITUTION	Commission on Education of the Deaf, Washington, DC.
PUB DATE	Feb 88
NOTE	171p.
AVAILABLE FROM	Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 (Stock No. 052-003-01102-6; $12.00).
PUB TYPE	Reports - Evaluative/Feasibility (142)
EDRS PRICE	MF01/PC07 Plus Postage.
DESCRIPTORS	American Sign Language; Deaf Interpreting; *Deafness; *Educational Needs; Educational Technology; Elementary Secondary Education; *Government Role; Handicap Identification; Higher Education; Language Acquisition; Parent Participation; Postsecondary Education; Prevention; Rehabilitation; Research Needs; Special Schools; Standards; Student Evaluation; Teacher Education

ABSTRACT

The report concludes that education of persons who are deaf in the United States is characterized by inappropriate priorities and inadequate resources. Among deficiencies identified are the failure to implement available preventive and early identification procedures, monitor educational programs, and use tools of advancing technology. Specific recommendations are made for the following areas of need: (1) prevention and early identification; (2) elementary and secondary education including language acquisition, appropriate education, least restrictive environment, parents' rights, evaluation and assessment, program standards, quality education, American Sign Language, Gallaudet University's pre-college programs; (3) federal postsecondary education systems including regional programs, adult and continuing education, comprehensive service centers, evaluation and oversight, admission policies, affirmative action, governing bodies; (4) research, evaluation, and outreach including the National Center on Deafness Research, and development of research plans; (5) professional standards and training including early childhood, state councils, preservice and inservice training, elementary and secondary teacher training, competency requirements, training for teachers in regular education settings, federal support for teacher preparation, educational interpreters, rehabilitation interpreters, traineeships; (6) technology including mandatory captioning, distribution of federal funds, built-in decoders, accessibility of the federal government, funding for technology, accessible equipment, assistive devices centers, national symposia, media services and captioned film program; and (7) clearinghouses and the Committee on Deaf/Blindness. (DB)

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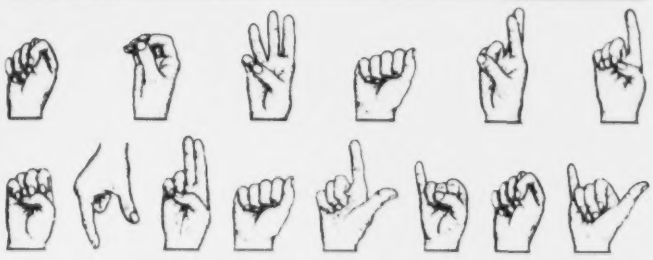
TOWARD EQUALITY

Education of the Deaf



A Report to the President and the Congress of the United States •

The Commission on Education of the Deaf •

February 1988

EC 212127

Toward Equality:
Education of the Deaf

"None so deaf as those that will not hear."

Matthew Henry
Commentaries

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*(June 1987—May 1988)

**(September 1986—April 1987)

Acknowledgements

The Commission could not possibly have accomplished the work necessary to prepare and compile this report without the unstinting help of many people and organizations, and we are acutely aware of our great debt to them. There will not be space here even to enumerate them all, and the acknowledgements we do make cannot convey the true measure of our heartfelt gratitude for the time, energies and resources put forth so freely, and with such good grace and even humor, on our behalf. Listed below are a few of those to whom we owe our thanks.

As part of our preparations, five public meetings were held. We are grateful to all those who attended these meetings. Many prepared statements to present to us; many provided insights and identified problems in the education of deaf people that we might otherwise have missed or given too little attention; many traveled long distances, and shared with us not only their personal experiences but large quantities of useful information as well. At each meeting location, someone volunteered to do all the work of scheduling speakers, reserving rooms, coordinating interpreters, and seeing to all the myriad other details that go with arranging and planning a public meeting. Our special thanks, then, are due to: Holly Lumpkin and Mona McCubbin, who arranged the meeting in Georgia; Robert Lauritsen, Susan Arneson, and Mary Alice Gregg who did the same for us in Minnesota; Henrietta Quintana in New Mexico; and Nancy Hatfield and Julia Bell in Washington.

Among the programs to which we are indebted are: Gallaudet University and its liaison to us, Jim Barnes; the National Technical Institute for the Deaf, and its liaison, Ross Stuckless; the University of Tennessee Consortium; St. Paul Technical Institute; California State University at Northridge; Seattle Community College; and the National Captioning Institute. Within the government we thank the General Accounting Office, particularly Bill DeSarno, Darlene McNair-Bell, and Ted Boyden for sharing their expertise with us, and Bill Woodbridge, Jane K. Ervin, Joseph Carmel, Wanda Okoro, Kim Wheeler, and Patricia Peterson who helped us with editing, design, layout, and printing of this report; to Gallaudet University and the National Captioning Institute again for providing the pictures for the illustrations in this report; and the U.S. Department of Education (especially Patty Guard and Tom Behrens who were our liaisons), which assisted in many ways, not the least of which was sharing their expertise and vital information. Nor must we neglect to thank the General Services Administration, which housed our offices, and especially Dennis Condie and Fred Porter for their administrative support.

We are also indebted to a number of consultants and others who provided short-term help: Paul Epstein, Harlan Lane, M. J. Bienvenu, Betty Colonomos and Marla Hatrak. A special thanks goes to our Editorial Consultant, Albert Rosenfeld.

We thank the Council on Exceptional Children, which provided us with books, articles, and other materials, without charge.

We thank Gallaudet University also for arranging an excellent display of current technology used with people who are deaf.

We acknowledge a special debt to the National Council on the Handicapped, which provided badly needed office space for the first 6 weeks of our work.

We also thank those reviewers who patiently waded through various drafts of sections of this report for content and accuracy, and, in general, provided suggestions and always useful advice: Meryl McPherson and Vince Hutchins, Bureau of Maternal and Child Health, Maryland; Stephen Epstein, Alexander Graham Bell Association; Tom Mahoney, Utah Department of Health; Angela Evans, Congressional Research Service, Washington, D.C.; Ruth Howell, Maryland School for the Deaf; Janice Gatty, Clarke School for the Deaf; Harlan Lane, Northeastern University; Richard Brill, California; Barbara MacNeil, San Diego Unified School District; Douglas Watson, Arkansas Research and Training Center on Deafness; Tom Mayes, Florida; Seth Ocloo, Louisiana School for the Deaf; Charles Estes, Oklahoma; Ed Carney, National Captioning Institute; Ernie Hairston and Joann McCann, Department of Education; and Jeff Hutchins, American Data Captioning.

Finally, we give our deepest thanks to the Commission staff. These are the people who worked with us full-time—actually considerably *more* than full-time—for a very frenetic and pressured 18 months, and who displayed unusual grace and professionalism during that time. Our professional staff—Pat Johanson, Staff Director; Robert Mather, Staff Counsel; Suzanne Shackelford, Program Analyst; and Lenore Shisler, Program Analyst—did the impossible job of developing this report. Nancy Creason, Administrative Officer, handled the myriad logistical details. Joan Jolly, Secretary, and Monica Hawkins, Clerk, provided indispensible office support. Maggie Geiger and Armetha Liles provided typing assistance for the final document.

We regret that space does not allow specific mention of all who helped us, but we are grateful to each and every individual and organization who took the time and trouble, and sometimes the

expense, to see that we achieved as balanced a view as possible of the current state of education for people who are deaf, and which publicized and promoted our efforts.

Introduction

The present status of education for persons who are deaf in the United States, is unsatisfactory. Unacceptably so. This is the primary and inescapable conclusion of the Commission on Education of the Deaf.

We, the members of the Commission, have carried out intensive and extensive investigations to fulfill the charge assigned to us in the Education of the Deaf Act. We have met, deliberated, held numerous public meetings, debated, consulted with, and solicited input from a wide range of individuals, organizations, and interested parties all around the nation. We have also provided multiple opportunities for commentary and counterproposals on our preliminary findings and recommendations.

All that now done, and our primary findings firmly enunciated, the obvious question arises: Do we have at hand the knowledge it would take to improve the situation significantly, even dramatically? The answer is a resounding Yes.

But can we afford to do what's necessary?

Indeed, we can't afford not to.

Maintenance of the status quo represents an unwarranted extravagance—especially when we consider that a clearer understanding of the needs of persons who are deaf, coupled with the redirection of some existing funding and priorities, and a modest amount of new funding could result in impressive long-term savings. Even if we were to put aside for the moment the more important costs of maintaining the status quo—the human costs for those who are deaf and their families, and the waste of invaluable human resources—and restrict ourselves to crass economic considerations, the current circumstances appear untenable.

The inclination in education of persons who are deaf has been one of reaction rather than action, of remediation, not prevention. Prevention has many faces, the most obvious of which is the prevention of deafness. Countless cases of deafness have been prevented by the vaccine for maternal rubella. Had it been available before the last major epidemic in the mid-1960's, it would have been unnecessary to provide lifelong special education for the thousands of additional Americans born deaf because of their mothers' rubella infection.

Other kinds of prevention are applicable at nearly every level of education, and if the necessary and appropriate interventions were carried out when they should be, they would prevent much greater

expenditures later on. Some of our recommendations are remedial to address existing problems; others are preventive, to minimize the need for future remediations.

If more emphasis were placed on action and prevention rather than on reaction and remediation, the overall result would be incomparably more people contributing to the economy, people granted the capacity that is their birthright to make the contributions that could enhance the well-being not only of themselves and their families, but of us all.

It would be unfair and ungracious not to acknowledge—indeed, not to underline—the fact that significant strides in educating persons who are deaf *have* been made since the document known as the Babbidge Committee Report was issued in 1965; and that both compassion and the best of intentions have been demonstrated in expression and action by both the Congress and the Executive Branch. These initiatives on the part of the federal government will be recognized and spelled out in our report. But in all honesty, we must point out that the actual implementation of these initiatives has been inadequate and sometimes misguided, and that progress has at best been spotty and sporadic. All too often, in our view, the recommended and legislated measures have turned out to be more well-meaning than effective for the target individual—the person who is deaf.

The purpose of this introduction is not to catalog exhaustively the findings and recommendations contained in the body of our report, but rather to sound some of its major themes and concerns. The report that follows not only details the findings, in condensed form, that we made over this 18-month period, and a set of recommendations to the Congress and the President based on these findings; but it also represents a snapshot, as it were, of the state-of-the-art in education of persons who are deaf as of early 1988. It is our hope that the Congress will take another such snapshot in the not-too-distant future. Certainly, the 23-year hiatus between the Babbidge Committee Report and ours was much too long.

The deficiencies, referred to earlier, in the successful implementation of publicly stated and legislated policy, lie largely in the failure to

- widely implement the available preventive and early identification procedures;
- issue appropriate guidelines or monitor educational programs for persons who are deaf;
- pay attention to educational content rather than mere placement—to *what* is taught rather than where it is taught;

- engage the active participation of parents and persons who are deaf—including those from various minority and ethnic groups—in the decision-making processes;
- recognize that the needs of persons who are deaf differ from those of other handicapped groups;
- understand that the appellations "deaf" and "hard-of-hearing" encompass a spectrum of diverse handicaps requiring that educational programs be tailored for the individual—whose needs change with time;
- interpret educational concepts to conform with the reality of individual needs—for example, the concept of least restrictive environment (LRE) is usually interpreted as whatever comes closest to integration in the regular classroom, whereas for many deaf children, the classroom placement is not appropriate to meet their particular needs while the appropriate LRE might be a special class or center school.
- acknowledge that as many as 60 percent of teenagers who are deaf are not qualified for college; yet no federal programs make provision for the comprehensive postsecondary training and education of this majority group—who will have to make a living, if indeed they succeed in doing so, without benefit of a college degree;
- encourage diverse, innovative, and high quality research;
- provide a wide range of educational opportunity for college students who are deaf in various regions around the country;
- put anywhere near enough emphasis on the training of adequate personnel for the specific and demanding tasks of participating in the education of the deaf at various levels; and
- use, and encourage the use of, the diverse tools being provided by advancing technology, including computers and electronic equipment and support for TV closed captioning.

We underline our conviction that carrying out our basic recommendations will result in (1) a substantial improvement in the quality of the lives of all beneficiaries—and these include more than just those who are deaf; and (2) a substantial contribution towards reducing the nation's deficit.

Notes on Terminology and Acronyms

This is not a technical report, therefore, the Commission sought to avoid obscure terminology. In any given context, even ordinary words may take on unfamiliar or slightly different meanings than are customary; thus, a review of the words and phrases used frequently throughout the report might help to avoid misinterpretations.

We speak many times of *Pre-College Programs* as distinct from *Postsecondary Programs*. The term pre-college usually connotes a prep school not far below the college level, which specifically prepares students for college. In our usage however, pre-college refers to *all* education before college—going back not only to elementary, junior high, and high schools, but to the preschool years as well; even to the need for early identification of hearing impairment. So one might define pre-college in this report as all of life before reaching college age.

Postsecondary Education usually deals with formal education after high school, including undergraduate and graduate programs, but in our context it refers to the entire period of life after reaching college age. Thus, postsecondary also encompasses, for us, adult and continuing education, as well as ministering to the educational needs, broadly defined, of the entire adult deaf population, including those who will never go to college.

Throughout the report you will see mention of regular schools (or educational settings), public schools, local settings, mainstreaming, residential schools, special schools or classes, center schools, and so on. To clarify possible confusion that we may cause, in all these cases, we are talking about two sets of circumstances.

In the one case, deaf students are at least partially *Mainstreamed*—that is, they are placed in the mainstream of education, in a *Regular*, *Public* or *Local School* or *Educational Setting*; and these terms are virtually interchangeable, because the regular educational setting is usually a public school and usually nearby, hence local. Many deaf students can be accommodated in these settings, depending on their degree of hearing impairment, and the kind of special expertise and facilities available. It is not uncommon for *Special Classes* for deaf students to be held in a regular school setting.

On the other hand, when the student's unique needs cannot be satisfied in this setting, placement in a *Special School* or *Setting* is called for. These can either be *Day Schools*, where pupils live at home, or *Residential Schools*, where, as the name implies, the students are in residence. These special schools are often referred to as *Center Schools*. While there are sometimes other subtle differences in these special

settings, these are the two essential categories—regular schools versus special schools—covered by the use of these designations.

One more set of important terms to distinguish one type of deafness from another: A hearing impairment that was present at birth, in childhood, or before there was any exposure to the spoken word, is said to be *Prelingual* (before spoken language experience). About 95 percent of all deaf children and youth are prelingually deaf. On the other hand, when the hearing impairment does not occur until after the individual has been exposed to, or even participated in, spoken language, it is said to be *Postlingual*. Only about 5 percent of elementary and secondary students with hearing impairments are postlingually deaf.

We also use the term *Deaf* to refer to all persons with hearing impairments, including those who are hard-of-hearing, those deafened later in life, those who are profoundly deaf, etc.

The *Babbidge Committee Report*, to which we refer from time to time, is the 1965 Report of the Advisory Committee on the Education of the Deaf. This Committee was established within the Department of Health, Education, and Welfare. The Committee was chaired by Homer Babbidge, hence the name.

Draft Recommendations are those developed and then published for public comment before becoming final recommendations in this report. We have included arguments in our report from people and programs who responded to the draft recommendations.

Many acronyms are employed throughout the report. We would prefer to have avoided them, but many occur so often that to spell them out each time would take up enormous additional space, and be boring to read as well. As a rule, when acronyms are used occasionally we have defined them on the page where they appear.

We have often used acronyms to represent schools or institutions engaged in education for people who are deaf:

GU refers to Gallaudet University, NTID to the National Technical Institute for the Deaf, and RPEPD to the Regional Postsecondary Education Programs for the Deaf. GU's Pre-College programs include the Model Secondary School for the Deaf (MSSD) and the Kendall Demonstration Elementary School (KDES).

ASL means American Sign Language, IEP stands for individualized education program, while LRE is shorthand for least restrictive environment. SEA is a state educational agency, as contrasted with LEA for a local educational agency. In referring to federal agencies, GAO is the General Accounting Office, and RSA is the Rehabilitation Services Administration.

In our footnotes you will see the acronyms NOI, NODR1, and NODR2. NOI refers to responses received to a Notice of Inquiry published in the *Federal Register* April 2, 1987; NODR1 and NODR2 are responses to the first and second Notices of Draft Recommendations, published in the *Federal Register* on August 28, 1987 and October 14, 1987, respectively. The numbers next to the acronyms refer to the docket number assigned to the response.

Executive Summary

The Commission on Education of the Deaf was established by the Education of the Deaf Act of 1986 to study the quality of education of deaf persons, and to make a report of its findings and recommendations to the Congress and the President of the United States. This represents the first time in history that a commission has been established by the Congress for such a purpose.

It must be said, in all candor, that, as of early 1988, the state-of-the-art in the education of persons who are deaf is characterized by inappropriate priorities and inadequate resources. The Congress must share the responsibility for these shortcomings. True, it has created programs, and commendably has funded them each year; but has failed to provide the necessary oversight or direction. Monitoring by the Executive Branch, notably by the Department of Education, is limited largely to the review of annual budget submissions and to generic program regulations and guidelines.

Progress has surely been made since the 1965 Babbidge Committee Report, but it has been markedly uneven. The federal government does much more for high-achieving deaf students than for those whom the nation's schools have failed. The ironic result is that those who need the most receive the least.

Among the recommendations concerning deaf children and youth, we emphasize those dealing with appropriate education and the least restrictive environment concept. Of our postsecondary education recommendations, we stress establishment of comprehensive services centers, a new role for the federally supported Regional Postsecondary Education Programs for the Deaf, and competitively available research funding. We also regard our recommendations on professional standards for educators, interpreters, and rehabilitation specialists, as well as new requirements for captioned TV services, as among the most important.

In addition to the recommendations discussed in the report, the Commission offers the following observations and suggestions:

First, the Commission has received several statements concerning Supplemental Security Income and its likelihood of being viewed as a disincentive for deaf students to complete or pursue further education and seek employment. The Commission believes this topic needs further study.

Second, the Commission endorses the proposed establishment of an Office on Deafness and Communicative Disorders within the Department of Education, in the Office of the Assistant Secretary for Special Education and Rehabilitative Services.

The Commission also recognizes the existence of an identifiable and important deaf culture, and suggests that this culture be tapped by educators to help deaf students understand and cope with their deafness. The psychological and sociological aspects of deafness need to be incorporated into school curricula. They must not be suppressed in a misguided effort to deny the differences inherent in deafness. There is nothing wrong with being deaf. The sooner children realize this, the sooner they will fashion for themselves lives of achievement and excellence.

Similarly, the needs of persons who are members of minority groups are often slighted. As with the population in general, the number of minority persons who are deaf is ever increasing, and their needs must be recognized and met. Among these is the need for more role models, more teachers who are themselves members of minority groups, more recognition of and research on ways to deal positively with cultural differences, and more understanding of the language learning process.

If the outcome of our study and report leads to closer monitoring, changed priorities, and investment of greater resources as recommended, deaf people everywhere will benefit.

Recommendations

Listed below are recommendations from each chapter, numbered in accordance with their appearance in the text.

Chapter 1
Prevention and Early Identification

Prevention

1. The Congress should establish a National Institute on Deafness and Other Communication Disorders within the National Institutes of Health.

Early Identification

2. The Department of Education, in collaboration with the Department of Health and Human Services, should issue federal guidelines to assist states in implementing improved screening procedures for each live birth. The guidelines should include the use of high-risk criteria and should delineate subsequent follow-up procedures for infants and young children considered to be at risk for hearing impairments.

Chapter 2
Elementary and Secondary Education

Language Acquisition

3. The Congress and the Department of Education should ensure that facilitating English language acquisition in students who are deaf (including vocal, visual, and written language) is a paramount concern guiding the implementation of exemplary practices; the establishment of program models; the determination of research priorities; the design of curricula, materials, and assessment instruments; and the provision of professional and parent training. Language acquisition should be a top priority in federally funded research.

Appropriate Education

4. The Department of Education should provide guidelines and technical assistance to state and local educational agencies and parents to ensure that an individualized education program for a child who is deaf takes into consideration the following: severity of hearing loss and the potential for using residual hearing; academic level and learning style; communicative needs and the preferred mode of communication; linguistic, cultural, social, and emotional needs; placement preference; individual motivation; and family support.

Least Restrictive Environment

5. The Department of Education should refocus the least restrictive environment concept by emphasizing appropriateness over least restrictive environment.

6. The Department of Education should issue a policy statement to permit consideration in placement decisions of curriculum content and methods of curricular delivery required by the nature or severity of the child's handicapping conditions.

7. The Department of Education should issue guidelines and standards by which school officials and parents can, in selecting the least restrictive environment, consider potential harmful effects on the child or on the quality of services which the child needs.

8. The Department of Education should publish in the *Federal Register* a policy interpretation that removal from the regular classroom does not require compelling evidence.

9. The Department of Education should monitor states to ensure that they maintain and nurture center schools as placement options as required by law.

10. The Department of Education should monitor states to ensure the availability and appropriateness of integrative programs for students in center schools.

Parents' Rights

11. The Department of Education should issue a policy statement requiring that school personnel inform parents of all options in the continuum of alternative placements during each individualized education program conference.

Evaluation and Assessment

12. The Department of Education should monitor states to ensure that the evaluation and assessment of children who are deaf be conducted by professionals knowledgeable about their unique needs and able to communicate effectively in the child's primary mode of communication.

Program Standards

13. The Department of Education should encourage states to establish program standards for deaf students requiring special schools or classes.

Quality Education

14. The Congress should pass a "Quality in Deaf Education" bill that would provide incentives to the states to enhance the quality of services provided to students who are deaf.

American Sign Language

15. The Department of Education should take positive action to encourage practices under the Bilingual Education Act that seek to enhance the quality of education received by limited-English-proficiency children whose native (primary) language is American Sign Language.

Gallaudet University's Pre-College Programs

16. The Congress should amend the Education of the Deaf Act to set certain priorities at the Kendall Demonstration Elementary School and the Model Secondary School for the Deaf, require annual reports to the Congress and the President, and require an evaluation and report every 5 years by the Department of Education's liaison office.

Chapter 3

Federal Postsecondary Education Systems

Strengthening and Expanding Regional Programs

17. The Congress should increase funding to strengthen each Regional Postsecondary Education Program for the Deaf by providing a broader range of educational options, including vocational and technical training, 2-year junior college, and baccalaureate programs. The number of Regional Postsecondary Education Programs for the Deaf should be increased to five. The additional program should be established in the southwest region of the United States to provide greater geographical coverage of the nation.

Funding Cycle of Regional Programs

18. A 5-year competitive funding cycle should be established for the Regional Postsecondary Education Programs for the Deaf.

Adult and Continuing Education

19. The Congress should authorize funds for each Regional Postsecondary Education Program for the Deaf to provide adult and continuing education programs within their respective regions and to assist other local educational institutions in providing such programs to adults who are deaf.

Comprehensive Service Centers

20. The Congress should establish one comprehensive service center in each of the 10 federal regions of the United States. These centers may be located in existing facilities or may be stand-alone units. The Commission further recommends that the centers be funded through a competitive bid process.

Evaluation and Oversight

21. The Congress should amend the Education of the Handicapped Act and the Education of the Deaf Act to direct the Department of Education's liaison office to: (1) coordinate the activities of Gallaudet University, the National Technical Institute for the Deaf, and the Regional Postsecondary Education Programs for the Deaf to ensure the quality of the programs and to avoid unnecessary duplication; (2) review and comment on workplans relating to research, demonstration and evaluation activities, technical assistance, and development of instructional materials; and (3) assist in the preparation of budget requests.

22. The Department of Education should conduct program evaluations at Gallaudet University, the National Technical Institute for the Deaf, the Regional Postsecondary Education Programs for the Deaf, and the proposed comprehensive service centers on a 5-year cycle, and submit a report of its evaluation with recommendations, including specific proposals for legislation, as it deems advisable, to the authorizing committees of the Congress. The evaluation team should consist of outside experts in the field of deafness, program evaluation, education, and rehabilitation, including persons who are deaf.

Admission Policies

23. The National Technical Institute for the Deaf should be permitted to admit foreign students who are deaf. However, the number of deaf foreign students should be limited to 10 percent of the student body at Gallaudet University and the National Technical Institute for the Deaf. Tuition should be increased to foreign students to cover 75 percent of the average per student costs at these two institutions.

24. The Congress should deny Gallaudet University the latitude to accept hearing students to its baccalaureate programs.

Affirmative Action

25. Gallaudet University, the National Technical Institute for the Deaf, and the Regional Postsecondary Education Programs for the Deaf should continue to strengthen the positive efforts they have already made in recruiting, hiring, and promoting qualified applicants and employees who are deaf.

Governing Bodies

26. The Congress should amend the Education of the Deaf Act to require that a majority of the members of the governing and advisory bodies of Gallaudet University, the National Technical Institute for the Deaf, and the Regional Postsecondary Education Programs for the Deaf be persons who are deaf.

Chapter 4

Research, Evaluation, and Outreach

National Center on Deafness Research

27. The Congress should establish a National Center on Deafness Research within Gallaudet University. Present funding at Gallaudet University for research-related purposes would not necessarily be increased, but would be managed by the Center. A significant portion of the Center's research funds should be awarded competitively to other qualified research organizations.

Development of Research Plans

28. The Congress should direct Gallaudet University and the National Technical Institute for the Deaf to develop concrete research plans and to provide them for public comment by consumers

and researchers. The projects should then be selected in conjunction with a program review process involving (principally) the best researchers in the field.

Chapter 5

Professional Standards and Training

Early Childhood

29. The Department of Education should require state educational agencies to conduct statewide planning and implementation activities, including the establishment of program and personnel standards that specifically address the educational and psychological needs of families with young children who are deaf. Individuals working with young deaf children and their families should be professionally trained in the area of deafness and early intervention.

State Councils

30. The Department of Education should suggest that at least one member appointed to each State Interagency Coordinating Council be knowledgeable about deafness.

Preservice and In-Service Training

31. The Department of Education should ensure that grants for personnel training be targeted to personnel providing special services, preschool, and early intervention services to deaf children, from birth to age 5, and their families. Training should also be provided to adults who are deaf to prepare them to work as facilitating team members in local intervention programs.

Elementary and Secondary Teacher Training

32. The Department of Education should provide guidelines for states to include in their state plans such policies and procedures at least as stringent as those set by the Council on Education of the Deaf, to ensure that professionals in educational programs for students who are deaf are adequately prepared and trained.

Competency Requirements

33. The Department of Education should require states to ensure that persons employed to teach in special education programs demonstrate competence in the instructional practices and communication methods utilized within those programs.

Training for Teachers in Regular Education Settings

34. The Department of Education should require states to ensure that regular classroom teachers serving students who are deaf in their classes receive the necessary technical assistance and training to meet the special educational needs of the students.

Federal Support for Teacher Preparation

35. The Congress should re-establish federal support for teacher preparation, including the recruitment of highly qualified applicants in

the field of education of the deaf. Priority for fellowships to qualified applicants should be awarded to members of minority groups and persons who are deaf.

Educational Interpreters

36. The Department of Education, in consultation with consumers, professionals, and organizations, should provide guidelines for states to include in their state plans such policies and procedures for the establishment and maintenance of standards to ensure that interpreters in educational settings are adequately prepared, trained, and evaluated.

37. The Congress should provide funding to develop training programs, design curricula, and award stipends to recruit and train potential and working educational interpreters.

Rehabilitation Interpreters

38. The Congress should fund section 315 of the Rehabilitation Act. The Department of Education should establish standards for interpreters in the field of rehabilitation and other human service settings.

Traineeships

39. The Department of Education should provide an increased number of traineeships for trainees specializing in deafness.

Chapter 6
Technology—Progress and Potential

Mandatory Captioning

40. The Congress should require the Federal Communications Commission to issue regulations as it deems necessary to require that broadcasters and cable-TV programmers caption their programming.

Distribution of Federal Funds

41. The Congress should establish a Corporation of Closed Captioning to coordinate the distribution of federal funds for captioning projects. The Corporation would neither perform captioning services, nor compete for funds with captioners.

Built-In Decoders

42. The Congress should require the Federal Communications Commission to issue rules as it deems reasonable and necessary to make new TV sets capable of decoding closed captions. Until such TV sets become widely available, federal funds for decoder development and manufacturing should be made available to increase the distribution of existing decoders, including provision of free decoders to persons who are deaf.

Accessibility of the Federal Government

43. Federal proceedings and meetings should be communicatively accessible for people who are deaf through captioning, assistive listening devices, and interpreters (when needed and arranged for in advance).

44. Instructional materials financed and/or disseminated by the federal government, including materials for public viewing and employment training, should have open captions.

45. The Congress should caption its own televised proceedings, including House and Senate floor activity.

Funding for Technology

46. The Congress should provide funds for research, development, acquisition, and maintenance of technology to be used for persons who are deaf.

Accessible Equipment

47. Federally funded school systems should specify accessibility of electronic equipment to persons with disabilities when such equipment is procured, leased, or rented for faculty, staff, or students.

Assistive Devices Centers

48. The Congress should support new and existing assistive devices resource centers to provide information and instruction on the latest technological advances for persons who are deaf.

National Symposia

49. The Department of Education should support national symposia on media and technology to provide information on the most recent advances in applied technology for individuals who are deaf.

Media Services and Captioned Films Program

50. The Department of Education should implement the following administrative improvements in the Media Services and Captioned Films program: lessen the gap between costs incurred and reimbursements, continue to make more prints available to depositories, increase the number of new titles distributed yearly, provide more information to schools about the program, continue to eliminate old films and update others, shorten the time required for distribution, and investigate the use of current technology to enhance the captioning of films and media.

Chapter 7

Clearinghouses and Committee on Deaf/Blindness

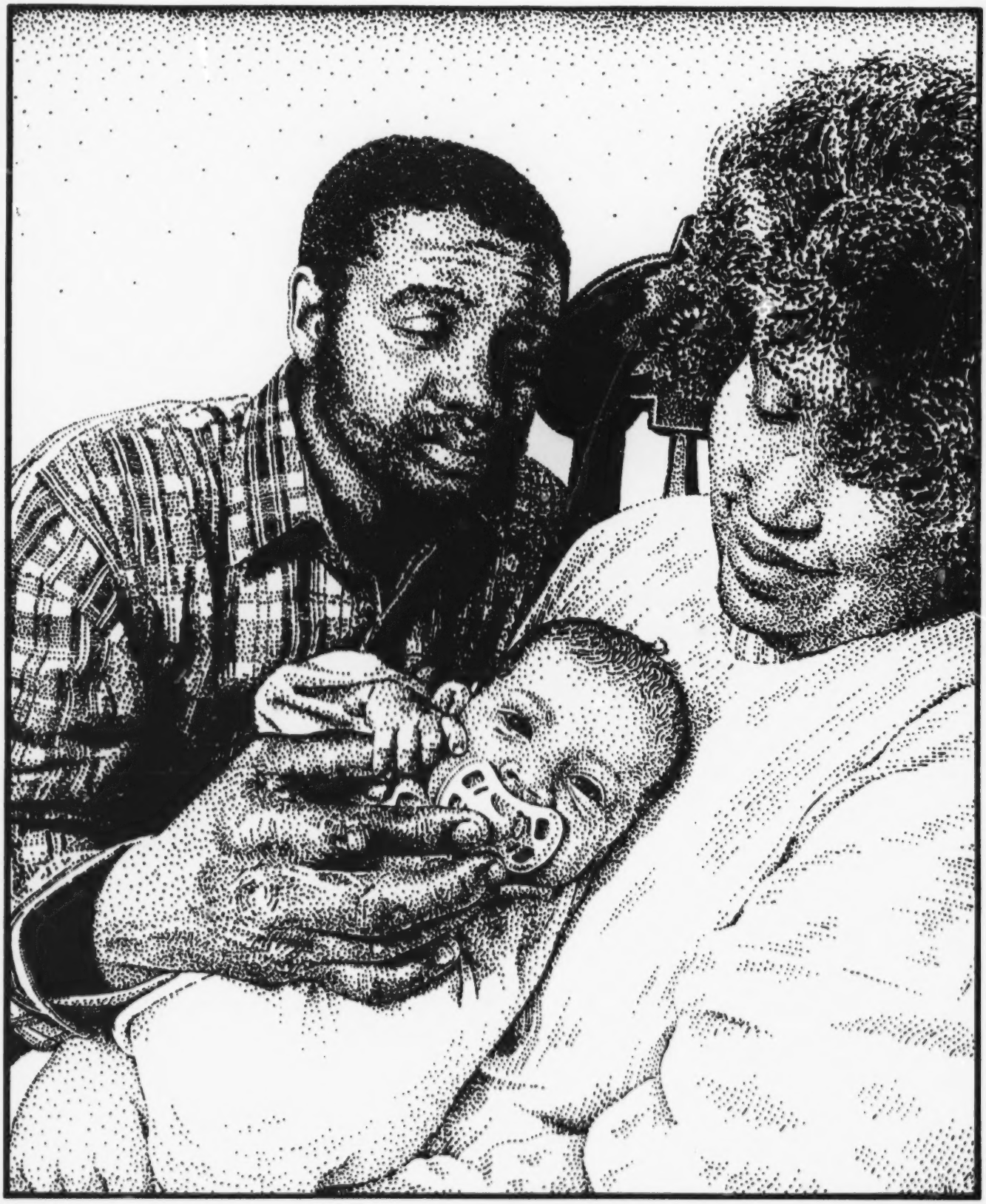
Clearinghouses

51. The Congress should require the Department of Education to strengthen public awareness of its clearinghouses by providing toll-

free access to the best of these services and by funding captioned public service announcements.

Committee on Deaf/Blindness

52. The Department of Education should establish a Committee on Deaf/Blindness to make a study of the needs of persons who are deaf and blind and to make a report of its findings and recommendations.



Prevention and Early Identification

Summary

People who are deaf, together with parents and professionals in the field of deaf education and rehabilitation, recognize the value in preventing deafness, and in identifying it as soon as possible with the intent of minimizing developmental delays. Some preventive methods and identification procedures entail nothing more than taking advantage of measures already at hand. For instance, certain infectious diseases, such as meningitis and maternal rubella, can be controlled through available inoculations. In addition, more than half of all childhood deafness is present either at birth or before the baby's first birthday. Identifying "risk factors" have been well delineated, but the fact is that the impairment is too frequently *not* identified until somewhere between the ages of 3 and 6. Some other nations do much better. Israel, for instance, identifies most deaf infants in their first year of life. Studies show that up to 75 percent of newborn babies with severe hearing impairments could be identified if we were to institute the necessary high-risk screening and follow-up procedures. Yet only a handful of our states maintain statewide high-risk screening programs.

We have two major recommendations to offer in the area of prevention and early identification. One is that a National Institute on Deafness and Other Communicative Disorders be established within the National Institutes of Health. (This actually represents an endorsement, in concept, of a bill already introduced in Congress.) Since most of the causes of deafness, and hence the potential remedies, remain unknown, they need to be sought out through research. Such an institute could also serve a vital role in the training and education of both professionals and the public. Our second recommendation is that federal guidelines be issued to assist states in setting up adequate screening procedures of every infant in order to identify children who are deaf at the earliest possible time.

Prevention

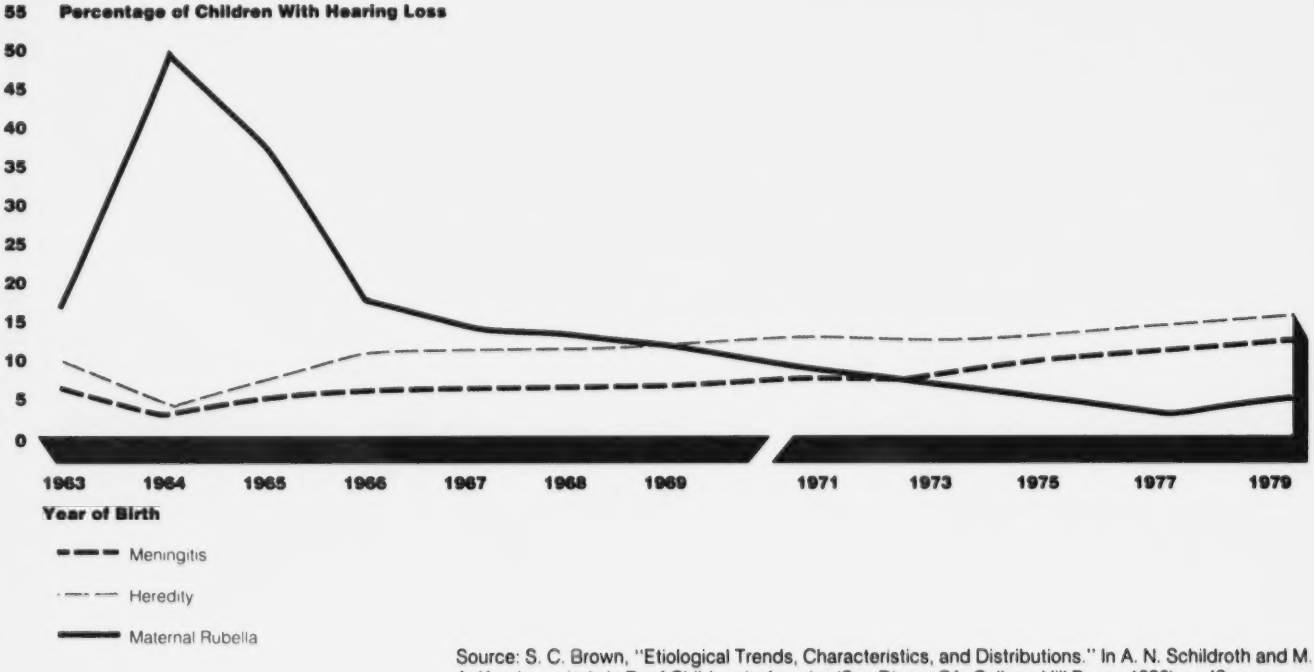
Preventive measures could dramatically reduce the incidence of conditions causing infant hearing impairment.

We know that more than half of all childhood deafness is present at birth or occurs during the first year of life.[1] Clearly the time for preventive measures is in the earliest possible stage: in infancy, at birth, or, better still, before birth. Because so much knowledge and understanding that we need about the causes of deafness are still missing; because enormous advances are still to be made in devising and discovering means to diagnose deafness earlier and to mitigate its consequences; and because this knowledge, and more, is required in order to further remedy, treat, and cure certain forms of deafness, a more vigorous research program needs to be launched by the biomedical

and behavioral sciences, in particular through the auspices of the National Institutes of Health.

However, remedial action need not await the arrival of this new knowledge. Just by making full use of the knowledge that we *do* possess, right now, we can make considerable inroads in reducing the incidence of deafness through preventive measures. Although most cases of deafness result from unknown causes, we can readily identify three causes of hearing impairment: heredity, maternal rubella (German measles), and meningitis.[2] (Figure 1.1 illustrates the prevalence of these three causes of hearing impairment since 1963.)

Figure 1.1: Percentages of Children With Hearing Losses Caused by Maternal Rubella, Heredity, and Meningitis, by Year of Birth (1963-79)



Source: S. C. Brown, "Etiological Trends, Characteristics, and Distributions." In A. N. Schildroth and M. A. Karchmer (eds.), *Deaf Children in America* (San Diego, CA: College Hill Press, 1986), p. 49.

When maternal rubella is the cause of hearing loss, hearing is already impaired at birth, although the impairment is usually not detected until much later. The most recent rubella epidemic before vaccinations were available occurred in 1963-65, and the result was the so-

called "rubella bulge" in the deaf population. The rubella vaccine has prevented any further epidemics from occurring; nevertheless, a number of rubella-related cases continue to be reported every year because mothers fail to be immunized. Although the numbers of rubella-related cases have decreased, there is a continuing need to remind the public and professionals, through active publicity and educational programs, of the need for immunization. Meningitis does not strike until after birth, but it can also be controlled through preventive measures. Vaccination by age 2 has recently been recommended.[3]

In addition, increasing numbers of children are experiencing hearing impairment as a result of infections, high fevers, and *otitis media*.[4] *Congenital cytomegalovirus* also causes hearing loss in over 4,000 infants annually[5]. Continued research to control these conditions is needed.

Recommendation 1

The Congress should establish a National Institute on Deafness and Other Communication Disorders within the National Institutes of Health.

The establishment of a National Institute on Deafness and Other Communication Disorders would provide an essential research base to investigate the causes, diagnoses, detection, prevention, control, and treatment of hearing impairment. It would also offer training, information, and continuing education programs for health professionals and disseminate information to the general public. The activities carried out by such an institute could substantially reduce the incidence and, in time, the prevalence of deafness.

Early Identification

Many children have hearing impairments that go undiagnosed and untreated for as long as 3 to 6 years.

Early detection of hearing impairment in affected infants is important for medical treatment and subsequent educational intervention to assure development of communication skills. In 1965, it was proposed to the Babbidge Committee that "universally applied procedures for early identification and evaluation of hearing impairment encompass all geographic areas both urban and rural."[6] However, more than 20 years later, the average age of identification for profoundly deaf children in the United States is reported as 2-1/2 years.[7] In contrast, the average age at which such children are identified in Israel is 7 to 9 months.[8]

Over 75 percent of newborns with severe hearing impairments could be identified through high-risk screening and follow-up procedures.

A focus on the concept of risk factors that endanger the hearing of the newborn, infant, or young child helps to promote the earliest possible detection of impairment. A number of high-risk factors are identifiable in the newborn's family history, in the pregnancy or delivery, and in the medical status of the newborn itself. These factors have been spelled out by the multidisciplinary Joint Committee on Infant Hearing.[9]

It is neither necessary, nor cost effective, to test the hearing of every newborn. Rather, we suggest the use of registries listing high-risk children as part of the strategy to identify children likely to be hearing impaired. This approach decreases the number of infants for whom lengthy and detailed hearing tests will be required.[10] Since the incidence of moderate to profound hearing loss in the at-risk infant group is 2 to 5 percent, audiological testing of this group is warranted for earlier diagnosis of hearing problems.[11] Although high-risk registries vary in the type of questionnaires used to collect information, they reportedly have the capacity to identify more than 75 percent of all severely to profoundly hearing-impaired newborns.[12]

Less than half of the states have operative or planned high-risk hearing-screening programs.

In 1986, only 8 states had active statewide programs to screen the hearing of high-risk infants. Three more had active regional programs and 8 states had programs in the planning stages (see figure 1.2). Many of the existing identification programs have been initiated by state health departments with the assistance of block-grant funding provided through the Department of Health and Human Services' Office of Maternal and Child Health. Several states now require that screening information be collected in conjunction with birth certificate data. While computer screening of a state's total live birth population in one central location is an efficient way to collect data, some states have statutes that do not allow birth certificate information to be used for screening purposes. Meanwhile, a number of hospitals have moved ahead on their own, instituting screening procedures, usually via newborn-maternal questionnaires. Despite the extra effort required, several states have built successful high-risk screening programs around the data collected by individual hospitals.[13]

States can advance their comprehensive child find systems by implementing high-risk screening and follow-up procedures.

States that do not yet have systems in place can get federal help in doing so. As added by 1986 amendments, part G of the Education of

Figure 1.2: States With Operative or Planned High-Risk Hearing-Screening Programs.

Source: T. Mahoney and M. A. Eichwald, "The Ups and 'Downs' of High-Risk Hearing Screening: The Utah Statewide Program," *Seminars in Hearing*, Vol. 8 (1987), p. 156.

the Handicapped Act authorizes states to develop an early intervention program for handicapped infants, toddlers, and their families.[14] This must include a comprehensive child find procedure and referral system.[15] It must also encourage the participation of primary, service providers, referral sources, hospitals, physicians, other health care providers, public health facilities, and day care facilities. The system must include, as well, programs to foster public awareness of the need for early identification of handicapped infants.[16]

With federal financial assistance, a number of states have adopted various procedures for identifying children with hearing impairments. However, no federal guidelines exist to assist states in implementing early identification procedures.

Recommendation 2

The Department of Education, in collaboration with the Department of Health and Human Services, should issue federal guidelines to assist states in implementing improved screening procedures for each live birth. The guidelines should include the use of high-risk criteria and should delineate subsequent follow-up procedures for infants and young children considered to be at risk for hearing impairments.

As efforts to detect hearing impairment in children are intensified, integration with existing programs to reduce duplication and to ensure adequate follow-up is advisable. The infant hearing-screening programs should be established in concert with initiatives already undertaken by health care agencies.

When the recommended guidelines are issued, state agencies responsible for maternal and child health services funded under title V of the Social Security Act[17] should assume responsibility for assuring that these guidelines are carried out in all statewide early identification programs. These programs include, but are not limited to, the early intervention program and the early and periodic screening, diagnosis and treatment program[18] to provide assessment and follow-up services to children eligible for Medicaid. The state agencies should disseminate information about how to recognize hearing impairments to obstetricians, pediatricians, family practitioners, and other health professionals. Public awareness programs should also be directed toward educators and other professionals who have contact with young children so that they are aware of the signs and implications of hearing loss.

[1]K. Riko, M. L. Hyde, and M. B. Alberti, "Hearing Loss in Early Infancy: Incidence, Detection and Assessment," *Laryngoscope*, Vol. 95 (1985), pp. 137-43.

[2]S. C. Brown, "Etiological Trends, Characteristics, and Distributions." In A. N. Schildroth and M. A. Karchmer (eds.), *Deaf Children in America* (San Diego, Calif.: College Hill Press, 1986), pp. 33-54.

[3]Riko, "Hearing."

[4]R. J. Trybus, Statement (June 16, 1987).

[5]S. K. Eichhorn, "Congenital Cytomegalovirus Infection: A Significant Cause of Deafness and Mental Deficiency," *American Annals of the Deaf*, Vol. 127 (Dec. 1982), pp. 838-43.

[6]U.S. Department of Health, Education and Welfare, *Education of the Deaf, A Report to the Secretary of Health, Education and Welfare by his Advisory Committee on the Education of the Deaf* (Mar. 15, 1965), p. C-10.

[7]E. T. Swigart, *Neonatal Hearing Screening* (San Diego, Calif.: College-Hill Press, 1986). Cited in G. Gustason, NODR1 #282, (June 15, 1987).

[8]Gustason, NODR1 #282.

[9]Member organizations include the American Speech-Language-Hearing Association, the American Academy of Otolaryngology, the American Academy of Pediatrics, and the American Nurses Association.

[10]Riko.

[11]J. V. Van Cleve (ed.), *Gallaudet Encyclopedia of Deaf People and Deafness* (New York: McGraw Hill, 1987).

[12]T. Mahoney and J. Eichwald, "A High-Risk Register by Computerized Search of Birth Certificates." In E. T. Swigart (ed.), *Neonatal Hearing Screening* (San Diego, Calif.: College-Hill Press, 1986).

[13]T. Mahoney, "Large-Scale High-Risk Neonatal Hearing Screening." In Swigart, *Neonatal Hearing Screening*.

[14]The Education of the Handicapped Act Amendments of 1986, Public Law 99-457, Sec. 101, 100 stat. 1145 (1986)(codified at 20 U.S.C. 1471-1485 (Supp. IV 1986)).

[15]20 U.S.C. at 1476(b)(5).

[16]At 1476(b)(6).

[17]Title V of the Social Security Act provides block grant funds to states for maternal and child health services (42 U.S.C. 701-709(1982)).

[18]42 U.S.C. 1396a(1982).

Elementary and Secondary Education

Summary

We feel a deep concern about what occurs in the early years of a deaf person's life, through childhood, and adolescence. Whether an individual's hearing is impaired or not, these are the critical, formative stages, which so markedly influence the later attainment of success and happiness. Failure of the educational system to supply the spectrum of services to which a deaf child is entitled under the provisions of the Education of the Handicapped Act (EHA) can—and all too often does—stunt an individual's natural growth toward mature, fully functioning adulthood; or, in a word, toward equality.

In 1975 when EHA was enacted, there was already a tendency to encourage deaf children to attend public schools close to home rather than special or residential schools. This was due in part to the maternal rubella epidemic of 1963-65, which caused deafness—and often other handicaps—in thousands of newborns. By the time these children were ready for school in the 1970's, their influx put heavy, unexpected demands on residential schools at a time when enrollments were declining (leaving excess classroom space) in the regular elementary schools. EHA, declaring the right to appropriate education, with its emphasis on an individualized education program to be tailored to the unique needs of the individual child, resulted in more deaf children moving into local public school settings, usually interpreted to be the least restrictive environment (LRE). As a consequence, in recent years (1978-86), while special-school enrollment was declining, due mainly to the departure of the so-called "rubella bulge" generation, attendance of deaf children in regular schools was rising.

Of the children thus "mainstreamed," only about half actually experience any true integration, even on a part-time basis. Due to a lack of understanding of the nature and diversity of hearing impairment, the unique communicative, linguistic and social needs of the deaf child have seldom been met appropriately, particularly in the mainstream setting, despite the Education of the Handicapped Act. LRE has too often been regarded as synonymous with mainstreaming; the regular classroom placement, even with supplementary aids and services, is often inappropriate.

Little weight is given to the value of using the method of communication the child has been accustomed to as part of his or her total program. (In fact, almost unrecognized is the legitimate status of American Sign Language (ASL) as a full-fledged native minority language to which all of the provisions of the Bilingual Education Act should apply.) Also too seldom recognized is the need for a deaf child to have other deaf children as part of his or her peer group, and to be exposed to deaf adults.

Nor are the rights and preferences of either parents or children sufficiently respected. Support staff are frequently inadequate and ill-trained.

These are a few of the shortcomings that our numerous recommendations are intended to remedy. One of our goals with the highest priority in educating deaf children is to facilitate, by all available means, their acquisition of English. To be without a firm grasp of the English language is to lack the "password" that permits entry into society—and achievement of equality of opportunity.

Educational and Legislative Trends

Changes in student enrollment, educational legislation, and student placement have greatly influenced the elementary and secondary educational systems serving students who are deaf.

Just as educational options for all handicapped children have increased, so have educational options for deaf children in particular. These options evolved from the special schools of the early 1800's to the current range of educational settings. However, many issues such as appropriate education, least restrictive environment, parents' rights, assessment and evaluation, and program standards, which are centrally relevant to the unique needs of these children, remain unresolved. Before making recommendations in specific areas, the Commission took careful note of the following educational and legislative trends.

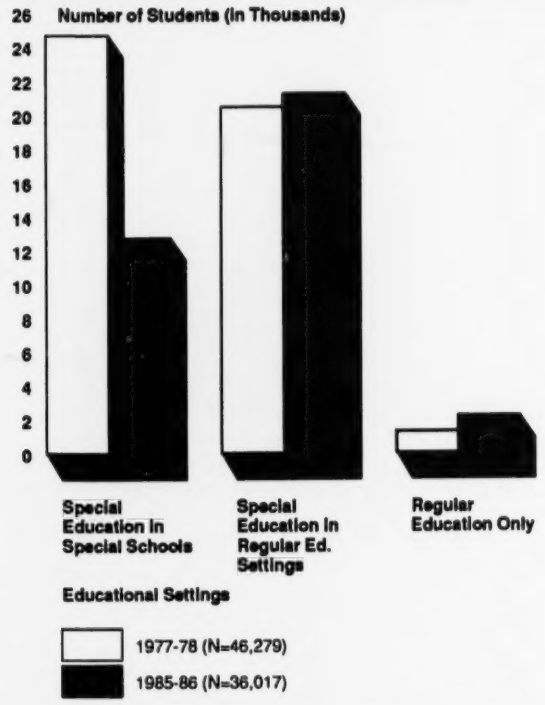
While the total number of deaf students in elementary and secondary education declined by 22 percent from 1978 to 1986, the number served in local school settings actually increased.

The Annual Survey of Hearing Impaired Children and Youth (Annual Survey) conducted by the Gallaudet Research Institute covers approximately 80 percent of deaf students within the United States who receive special education services. Data collected over the past decade show a noticeable drop in the number of deaf elementary and secondary students: In the 1977-78 survey, data on 46,279 students were reported; by 1985-86, the number had gone down to 36,017. This 22-percent decrease was due primarily to the exit from the school system of students whose deafness resulted from the rubella epidemic of 1963-65.[1]

That epidemic confronted educators in the 1970's with a unique situation: As the general elementary school-age population began to decline for the first time in decades, leaving unused classroom space, the school-age deaf population began to burgeon. Residential schools for the deaf simply did not have the space to handle the new wave of

students.[2] The result was an inclination toward accommodating deaf children closer to home in public schools, a trend accelerated by the passage of the Education of the Handicapped Act and similar state legislation. The trend has continued, as illustrated in figure 2.1.

Figure 2.1: Numbers of Hearing-Impaired Students (6-19 Years Old) **in Three Educational Settings**



Source: T. E. Allen, M. A. Karchmer, and S. C. Brown, *Deaf Students and Their Schools: The Changing Demographics* (Washington, D.C.: Gallaudet Research Institute, in press).

Since the 1965 Babbidge Committee Report, the most important federal legislation affecting the education of children who are deaf has been the Education for the Handicapped Act, Public Law 94-142, which sought to assure all handicapped children a free, appropriate public education.

Ten years after the Babbidge Committee Report, the Congress enacted the Education of the Handicapped Act (EHA),[3] which provides federal funds to states to assist in identifying, evaluating, and appropriately placing handicapped children.[4] States seeking the funds must develop policies that all handicapped children have available to

them a free appropriate public education.[5] The Supreme Court defines it as:

> "educational instruction specially designed to meet the unique needs of the handicapped child, supported by such services as are necessary to permit the child 'to benefit' from the instruction. Almost as a checklist for adequacy under . . . [the EHA], the definition also requires that such instruction and services be provided at public expense and under public supervision, meet the States' educational standards, approximate the grade levels used in the State's regular education, and comport with the child's . . . [individualized education program (IEP)]. Thus, if personalized instruction is being provided with sufficient supportive services to permit the child to benefit from the instruction, and the other items on the definition checklist are satisfied, the child is receiving a 'free appropriate public education' as defined by . . . [the EHA]."[6]

To effectuate these policies, the state must submit formal plans to, *inter alia*, assure that:

> "to the maximum extent appropriate, handicapped children . . . are to be educated with children who are not handicapped, and that . . . removal of handicapped children from the regular educational environment [should occur] only when the nature or severity of the handicap is such that education in regular classes with use of supplementary aids and services cannot be achieved satisfactorily."[7]

The federal and state views have also changed from those automatically placing students in special programs for the deaf to those espousing a preference for educating students who are deaf in regular classes, based on an assessment of individual needs.

The Education of the Handicapped Act and similar state legislation have had their greatest impact on younger deaf students, resulting in larger numbers of these students being placed in local school settings.

Although the decline in special school enrollment coincided with the enactment of the Education of the Handicapped Act and similar state legislation, the decrease in the number of deaf students attending special schools was not due solely to the passage of these laws. In fact, the number of 6- to 9-year olds enrolled in 1977-78 was virtually identical to the number of 14- to 17-year olds enrolled in 1985-86, indicating that the number of students placed in special schools in that age cohort (group of students followed over a specific time period) tended to remain constant. The reduced enrollment in special schools was due, in large part, to an overall decrease in the number of deaf students, but also in part, to a decline in the number of *new* 6- to 9-year-old students being placed in special schools. Meanwhile, the number of 6- to 9-year-old deaf students in local education programs

for the deaf went up by approximately 1,100. Thus, the increased enrollment of deaf students in local schools was due primarily to the number of young students who were initially placed in that setting.[8] It is possible, too, that some of the increase in the percentage of deaf students in local programs was due to the inclusion of students with milder hearing losses in the count of deaf students.

An increasing number of older students may be entering special schools after spending their primary grades in local school settings.

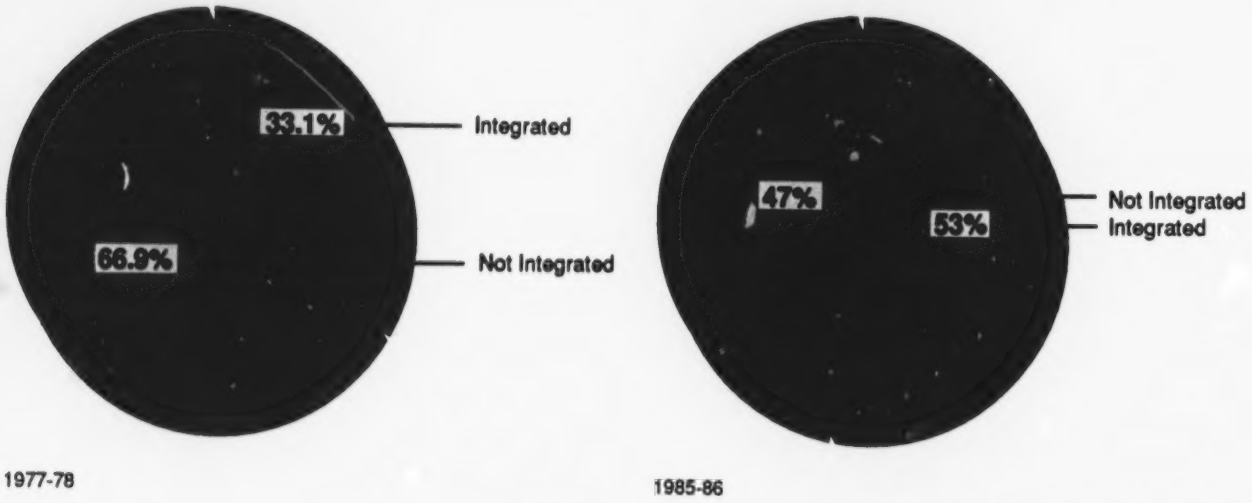
As the current 14- to 19-year-old students leave the secondary school system, the enrollments at special schools could undergo further decline. However, student placement decisions are far from stable, and it is quite possible that a greater number of older students will enter special schools after spending their early grades in a regular school. Recent analyses of a single cohort within the Annual Survey data base suggests that students between the ages of 14 and 18 are now much more likely to move from local schools to special schools than the reverse.[9] Deaf students, after their education in the elementary grades has been appraised as inappropriate, may be entering special schools at the secondary level.

Only about 50 percent of deaf students who are placed in local school settings experience any degree of academic integration.

Despite the increased percentage of deaf students attending local public schools, it is erroneous to assume that they are all fully integrated or mainstreamed into classes with hearing students. However, figure 2.2 suggests that the hours of integration for academic subjects are increasing: In 1977-78, approximately 33 percent of the students were academically integrated at least part time; in 1985-86, 53 percent of the students were reported as academically integrated to some degree.

Among those students who spent at least part of the school day with hearing students, there was a slight increase in the percentage spending 15 or more hours per week integrated during academic instruction (see table 2.1).[10]

Figure 2.2: Percentages of Hearing-Impaired Students (6-19 Years Old) **Academically Integrated at Least Part Time**



Source: T. E. Allen, M. A. Karchmer, and S. C. Brown, *Deaf Students and Their Schools: The Changing Demographics* (Washington, D.C.: Gallaudet Research Institute, in press).

Table 2.1: Hours of Academic Integration for Students Integrated at Least Part Time.

Hours of Integration	1977-78	1985-86
1-5 hours per week	23.9%	20.6%
6-15 hours per week	24.5%	22.9%
More than 15 hours per week	52.0%	56.6%

Source: T. E. Allen, M. A. Karchmer, and S. C. Brown, *Deaf Students and Their Schools: The Changing Demographics* (Washington, D.C.: Gallaudet Research Institute, in press).

Students who are members of minority groups are less likely to be fully mainstreamed.

Corresponding to national figures for the entire school-age population, the proportion of deaf students who are members of minority groups is increasing. The data also show a change in the ethnic background of students being served in various settings. While the percentage of blacks has remained constant, the percentages of Hispanics and students with other ethnic backgrounds (particularly Asian-American) have increased. Although the proportion of minority students participating in regular education has increased, the likelihood of their becoming *fully* mainstreamed has actually decreased.[11]

Students with milder hearing loss and fewer additional handicaps are more likely to be fully mainstreamed.

As might be expected, students with milder hearing losses are more likely to be educated in some type of regular education setting than are students with more profound losses. Less-than-severe hearing impairment is typical in regular education settings, with profound hearing loss typical in special schools.[12]

The prevalence of additional handicapping conditions between 1977-78 and 1985-86 has not changed greatly; however, with the decrease in rubella as a cause of deafness, it would be expected that learning disability, a handicap commonly associated with rubella, would decrease proportionately. This has not occurred; in actuality, there has been an increase in the number of students identified as having learning disabilities.[13] The 1982-83 Annual Survey showed mental retardation, learning disabilities, and emotional and behavioral problems to be the most common additional handicaps.[14] Orthopedic impairments, epilepsy, and mental retardation are also on the increase.[15] Again, pupils who attended classes exclusively in some type of local program were less likely to have additional handicaps.

Implications of Deafness for English Language Acquisition, Communication, and Reading

Most children who are prelingually deaf experience serious difficulties and delays in acquiring English language skills.

The age at which hearing impairment occurs influences the language base which a person uses throughout life. Persons who become deaf after learning a spoken language (postlingually) can continue to use those language skills in later educational and social contexts. However, this is true for only about 5 percent of children who are deaf. The other 95 percent are either congenitally deaf or lose their hearing before they have had the chance to acquire English or other spoken language skills (prelingually).

The prelingually deaf population can be further divided into two groups: those with hearing parents and those with at least one deaf parent. Because approximately 90 percent of deaf children have hearing parents, these children are initially exposed to spoken language in their homes. Although lip reading provides some language-learning cues to the child, at most only 40 percent of the sounds produced in the English language is visible on the lips. While intensive auditory intervention may greatly enhance the speech reception of some, other young deaf children may understand as little as 5 percent of what is said to them.[16] The process of acquiring a spoken language is very difficult for a child who does not have access to the full range of auditory stimuli.

The remaining 10 percent of deaf children have at least one deaf parent, and many of these children are exposed to American Sign Language (ASL) as the first language in their homes. They progress through sequences of ASL development comparable to the way hearing children learn English. Researchers analyzing the linguistic characteristics of ASL have determined that it is a natural and complete language, similar in complexity and expressiveness to spoken languages. (ASL should not be confused with manually coded English sign systems—e.g., Signing Exact English, Seeing Essential English—which are *not* languages but which are used in educational settings. See the section in this chapter about American Sign Language.) Children who use ASL are generally confronted with learning English as a second language when they begin school.

A child without a strong language and communication base faces barriers that often lead to further educational difficulties.

The major barriers associated with deafness relate to language and communication. Many children who are deaf, unlike most children who hear, enter the educational system without a competent language base. Learning a language—any language—is such a complex process that it is not yet fully understood even by researchers. We do know, however, that learning a language requires interpersonal interaction and ample communication opportunities.

In traditional educational settings, the context of social discourse, which goes far beyond the spoken word, is often taken for granted. This context is replete with unspoken subtleties unavailable to the deaf child, who is thus isolated from the process through which hearing teachers and students normally interact. As one educator put it:

> "A major obstacle presented by early profound deafness is the isolation of the individual created by a rupture in the process through which people normally establish interaction, communication, and language."[17]

It is the role of the school or program to create the environment of learning that maximizes the language acquisition process of deaf children. To do so requires highly trained specialists who understand the fundamental principles of developmental psycholinguistics, and also frequently requires a residential placement that will reinforce these principles 16 hours a day rather than the traditional 5-1/2 to 6 hours afforded during the regular school day.

Since reading ability is highly correlated with prior English language knowledge, many students who are deaf also have difficulty becoming proficient readers.

The ability to express or comprehend language in written form is closely allied with the ability to express and comprehend language through face-to-face spoken communication. The relative success of traditional reading methodology has thus been heavily dependent upon a student's prior grasp of spoken English. Since most deaf students do not have a strong English language base to build on, many of them do not read as well as their hearing peers:

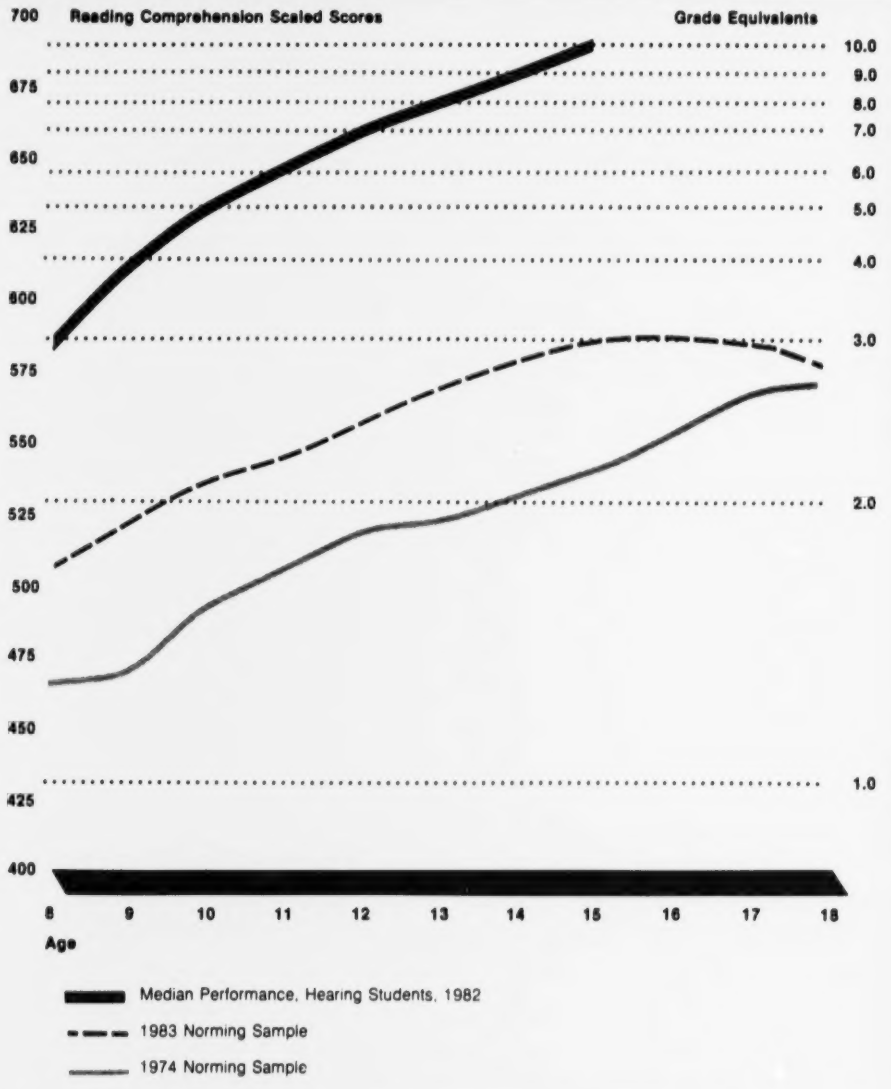
> "The poor reading performance of most deaf students may be viewed within an interactive theoretical framework in which the reader uses specific skills (e.g., decoding and inference) to hypothesize at various linguistic levels (e.g., lexical, syntactic, semantic, textual) about the information contained in the text. . . . Reading difficulties of deaf students may be attributed to deficits in experiential (e.g., world knowledge), cognitive (e.g., inferencing), and linguistic (e.g., word knowledge) variables."[18]

The educational system has not been successful in assisting the majority of students who are deaf to achieve reading skills commensurate with those of their hearing peers.

A variety of demographic variables and test factors must, of course, be taken into account when attempting to compare student reading achievement levels between groups of students over a period of time. Nevertheless, the evidence clearly shows that the majority of deaf students have not been helped to achieve academically at a level equal to that of their hearing counterparts. Figure 2.3 shows some improvement in the reading scores of deaf students (particularly in the early years) over the past decade, as measured by the Stanford Achievement Test, but also illustrates the fact that many deaf students continue to score much lower than their hearing peers.[19] However, it must be pointed out that these data reflect only the scores of deaf students receiving special education services and do not include students who receive no special services from their schools. Some deaf students do achieve much higher reading levels.[20]

Thus, for the majority of deaf children, acquiring English language skills poses a tremendous challenge. Even with amplification and training designed to maximize the use of residual hearing, the majority of prelingually deaf children will require special intervention if they are to develop English language competency.

Figure 2.3: Mean Reading Comprehension Scaled Scores for Hearing-Impaired Norming Samples, Broken Down by Age (Plotted With Median Performance of Hearing Students)



Source: T. E. Allen, "Patterns of Academic Achievement Among Hearing-Impaired Students: 1974 and 1983." In A. N. Schildroth and M. A. Karchmer (eds.), *Deaf Children in America* (San Diego, Calif.: College Hill Press, 1986), p. 164.

Recommendation 3

The Congress and the Department of Education should ensure that facilitating English language acquisition in students who are deaf (including vocal, visual, and written language) is a paramount concern guiding the implementation of exemplary practices; the establishment of program models; the determination of research priorities; the design of curricula, materials, and assessment instruments; and the provision of professional and parent training. Language acquisition should be a top priority in federally funded research.

Exemplary practices, programs, materials, and assessment instruments should be developed based on research findings from the fields of deaf education, psycholinguistics, reading, human cognition, and second language acquisition.

Appropriate Education

" 'Appropriate' meant appropriate. Proper. Right for our children. What could be plainer? The law promised our children an appropriate education, geared to their individual needs. To us, that was the end of the matter. The law promised. The law would provide.

"Or so we thought.

"We found that 'appropriate' meant, at best, 'adequate.' 'Good enough.' Not too costly, and not too troublesome. We found that, for our children who could not hear, 'appropriate' meant placement in a classroom with children who could hear. 'Appropriate' meant a few hours a day with a teacher minimally qualified to teach deaf children. 'Appropriate' meant depending on a poorly qualified sign language interpreter six hours a day. 'Appropriate' meant being the only kid in the class with your very own grown-up hanging on your heels all day long.

" 'Appropriate' meant spending six or eight years of your life in a classroom with all the same kids, and often the same teacher. 'Appropriate' meant being a special kid in a special class down the hall, and away from the 'normal' kids.

" 'Appropriate' meant growing up not knowing that you were part of a community of deaf people. Growing up thinking that upon graduation you would somehow become hearing—after all, you'd never seen a deaf adult. 'Appropriate' meant being embarrassed at your voice, your oversized 'body aids,' and the 'strangeness' of your signs. 'Appropriate' meant denying every aspect of your identity that set you apart, and striving with all your might to look, sound, and be just like a 'normal kid.'

" 'Appropriate' meant not expecting too much. Not having responsibilities. Not trying the things that teachers 'knew' deaf kids couldn't do. Not making waves. Not disrupting the system. In short, we

found that appropriate meant letting our kids in the schoolhouse door. But not assuring they learned *anything* once inside."[21]

Despite the Education of the Handicapped Act's primary goal of an appropriate education for each handicapped child, many children who are deaf are not receiving special educational and related services appropriate to their unique needs. The low incidence of deafness coupled with its unique ramifications means the needs of children who are deaf are easily and frequently neglected.

Despite the Education of the Handicapped Act (EHA) and similar state legislation, the Commission finds that many children who are deaf are receiving inappropriate and inadequate educational services, if indeed they get any special services at all. Many educational administrators and school officials responsible for implementing EHA do not recognize the unique ramifications of deafness. They seem to assume that the services they provide do meet the needs of children who are deaf. What constitutes an "appropriate education" for each child is too often determined by placement, rather than by educational and related services to meet the child's particular needs.

EHA specifies that education programs for handicapped children, in order to be *appropriate*, must emphasize "special education and related services designed to meet their unique needs."[22] These special services must comport with each child's individualized education program (IEP), as formulated in accordance with the evaluation and placement process specified in the act and its implementing regulations. The trouble is, many educational personnel are simply unaware of the unique needs of children who are deaf, and thus fail to identify and meet these needs.

The educational needs of many children who are deaf are intensive.

Education is a multifaceted and complex process that takes more than just a teacher imparting information to a student. The educational process occurs through human interaction for the purpose of transmitting knowledge. Interaction is active; students are not passive receptors of knowledge, but rather participants in complex interactive behaviors which, taken together, can be called culture.[23] The design of an IEP is, then, a design of a cultural experience. The factors selected for the IEP affect what interactions will or will not occur.

The Commission finds that the following factors should be considered when designing an IEP for a deaf child:

- communicative needs and the preferred mode of communication,
- linguistic needs,

- severity of hearing loss and the potential for using residual hearing,
- the child's academic level and style of learning,
- social needs,
- placement preference,
- emotional needs,
- individual motivation,
- cultural needs, and
- family support.[24]

The particular needs of a given child may require the expansion or revision of this list. Its main purpose is to identify areas decisionmakers should consider as they develop an IEP that will provide an appropriate education for a child who is deaf. As an example of a possible change in the list, life planning and postsecondary goals should be considered for secondary age students. We regard this recommendation as among our most important. The terms "appropriate" and "unique needs" are prominent in EHA and must be given great weight. Discussion of each factor follows:

1. Communicative needs and the preferred mode of communication. Communicative needs and preferences vary widely and deserve careful consideration. A key issue is the primary means of communication to which the child is accustomed. It is this that should dictate the educational setting—not the other way around.

Educators should take into consideration the child's ability and the opportunities provided to communicate freely with others, whether they are hearing or not.

It is essential that the parents believe in whichever communication method is chosen for their child's educational program. Parents should be consulted, and their wishes should be given serious consideration. (Many parents complained to us that this does not happen.)

2. Linguistic needs. A child's language abilities (first and second languages) should be identified. A strong language base is of paramount importance if the child is to gain an education and be able to communicate with those around him or her. Regardless of the degree of the child's hearing loss, communicative and linguistic needs should be an integral part of the child's IEP.

3. Severity of hearing loss and the potential for using residual hearing. Not only must the degree of a child's hearing loss be determined but also how well the child uses any residual hearing. The latter helps determine the need for hearing aids or other assistive listening devices, but

this information alone is not predictive of educational choice or proper placement.

4. Academic level and style of learning. A child who is deaf should not be placed in a program where other students are at an academic level either significantly beyond or behind his or hers. The proposed IEP should be designed to ensure that satisfactory educational progress be provided for. This progress should be measured against the "norms" of comparable children in the state.

Whether deaf or not, a child must feel comfortable in the environment in order to learn well. Deaf children can learn as much as hearing children. However, in some cases, they have different learning styles. How learning occurs needs careful consideration because learning situations vary with the curriculum and type of classroom. How the child learns most effectively should drive decisions about the appropriate program.

5. Social needs. Interaction with peers is essential for self-esteem. To be among peers means to be able to communicate freely with them. It is critical that children who are deaf be among peers with whom they can communicate and interact comfortably, and who are in the same age range (no more than 2 or 3 years age difference). These peers—often, other children who are deaf—serve as models for learning appropriate social behavior and developing a self-identity. More than that, a child who is deaf should be placed where his or her needs can be met by meaningful participation in after-school or extracurricular activities. This is typically more significant for older children of secondary age who need to learn mature social relationships and behavior.

Appropriate role modeling is not only dependent on sufficient peer interaction, but also on exposure to adults, especially adults who are deaf. A "world" without adults who are deaf can severely limit a deaf child's social development.

6. Placement preference. The child has a strong vested interest in a placement decision, and the child's own opinions and preference deserve full consideration. Since parents must live with the educational placement decisions, their wishes should be given consideration and sincere attempts made to accommodate them.[25]

7. Emotional needs. For any child, handicapped or not, a positive self-concept is crucial. Emotional stability and maturity are often problem areas for children who are deaf. If a child has low self-esteem, tends

to withdraw, or exhibits inappropriate behavior, his or her educational program should seek to improve the child's emotional well-being. Both the home and school environment must be evaluated to determine if modifications are needed. Such a child may need peers and adults who are deaf for healthy self-esteem, and a change to center school placement may be an effective solution.

8. Individual motivation. A child's personal or career aspirations should play a large role in a placement decision and should be given serious consideration.

9. Cultural needs. Culture is knowledge that gives individuals a shared understanding of what are accepted behaviors and values. It enables the world to become expected and anticipated; individuals can gauge their place in it. Differing cultural standards, when not recognized, can interfere with the learning process in the classroom in a major way.

While a child's culture should be respected, an understanding of the values and behaviors of another cultural group may be essential to an effective interaction with that group. Specific cultural factors, when relevant, should not be overlooked.

10. Family support. The family, particularly the parents, are the most important part of a child's support system, whether that child hears or not. But families need assistance in understanding deafness and in learning new skills that will help the child and family do well. The program should train parents to use whichever mode of communication their child uses.[26]

In response to our draft recommendation,[27] the Department of Education's Assistant Secretary, Madeleine Will, fully supported the concept that the basic factors we suggested should be taken into consideration in order to:

> "create the most facilitating educational environment for children who are deaf. It is this *total* learning environment on which we must focus. It is the total learning environment which we must strive to create in all academic settings where deaf children are educated."[28]

She, however, emphasized:

> "The educational needs of the child should be the principal concern of the IEP committee in making placement decisions. To the extent that any of listed factors can affect the educational needs of any handicapped child, including one who is hearing impaired, these factors should be taken into account; similarly, persons performing

> evaluations should explore these factors where it is possible that the factors would inform the evaluators as to the child's educational needs. The information obtained from such an evaluation will often be vital to the people making IEP and placement decisions. The Department does not believe that any change in Federal policy is needed to achieve these objectives."[29]

We were told that due to the low incidence of deafness, coupled with its unique ramifications, many children's needs, particularly those listed above, are frequently neglected. We also heard that confusion still reigns over what constitutes the educational needs which should be taken into account in placement decisions. Thus, we recommend that the Department of Education identify the listed factors as possible educational needs. The Department of Education should also state that once the listed factors, as well as other factors, are identified as actual needs, no educational program can be considered appropriate unless it meets these needs through special instruction, staff, equipment, services, and environment.

As articulated by one legal advocacy agency for deaf persons,

> "A policy that requires consideration of all significant and relevant factors that make up the unique educational needs of a deaf child should lessen the likelihood of an erroneous placement decision."[30]

Recommendation 4

The Department of Education should provide guidelines and technical assistance to state and local educational agencies and parents to ensure that an individualized education program for a child who is deaf takes into consideration the following: severity of hearing loss and the potential for using residual hearing; academic level and learning style; communicative needs and the preferred mode of communication; linguistic, cultural, social, and emotional needs; placement preference; individual motivation; and family support.

Least Restrictive Environment

> "We feel betrayed by a government which puts our children in regular classrooms, with teachers overburdened and underqualified, in the name of freeing them from 'restrictive' environments. We feel betrayed by a rule which says our children must fail in those classrooms before being allowed to succeed in programs designed for their unique needs . . . . We feel betrayed by a government which says a 'continuum' means a regular school, always a regular school, and only a regular school, no matter what our children truly need . . . . We are tired, so very tired, of bureaucrats who forewarn us 'not to get hung up' on least restrictive environment . . . ."[31]

The least restrictive environment concept has not been appropriately applied by federal, state, and local educational agencies for many children who are deaf.

What constitutes an appropriate education in the least restrictive environment? This is an explosive question that has provoked the most debate and confusion in the education of children who are deaf. The Commission received more input regarding LRE than on any other issue. Parents, deaf consumers, and professional personnel of all persuasions have, with almost total unanimity, cited LRE as the issue that most thwarts their attempts to provide an appropriate education for children who are deaf. They reported that many placement decisions were made with no regard for the potentially harmful effects on the child or the quality of education to be provided. As a consequence, these decisions were so detrimental that the resulting education was not appropriate to the child's needs.

Of fundamental importance to the education of children who are deaf is the way placement decisions are made. At issue is the implementation of the LRE provision, which states that "to the maximum extent appropriate," a handicapped child is to be educated with children who are not handicapped.[32] Although this reveals the strong congressional preference for placement in regular classrooms,[33] a preference is not a mandate. EHA does specifically permit the child to be placed in a special class, separate school, or other settings (other than the regular classroom)—although only when the nature or severity of the handicap makes it unlikely to achieve a satisfactory education in the regular classroom, even with the use of supplementary aids and services.[34]

The Department of Education's regulations implementing LRE require each local educational agency (LEA) to make available a "continuum of alternative placements" for the education of handicapped children. This continuum includes regular classes, special classes, and special schools.[35]

LEAs must ensure that every handicapped child's placement is determined annually in the individualized education program (IEP), and as close as possible to the child's home.[36] LEAs must also ensure that the various alternative placements are available to the extent necessary to implement the IEP for each handicapped child;[37] and that unless the IEP requires some other arrangement, the child is educated in the school which he or she would attend if not handicapped.[38] In selecting the least restrictive environment, consideration must be given to "any potential harmful effect on the child or on the quality of services which he or she needs."[39] The placement decision must be primarily an individualized one:

> ". . . some of the main factors which must be considered in determining the extent to which a handicapped child can be educated

> with children who are not handicapped. *The overriding rule in this section is that placements must be made on an individual basis.* The section also requires each agency to have various alternative placements available in order to insure that each handicapped child receives an education which is appropriate to his or her individual needs."[40]

LRE is a placement issue, which should be considered in the context of the goals and objectives in each child's IEP. In other words, LRE should be considered only after the IEP has been developed.[41]

We recognize that for some handicapped children, an "appropriate" education has been secured in large part, and, that for these children, the Department's emphasis on LRE is sound. However, voluminous testimony presented to us indicates strongly that this is not yet the case with most deaf children. We emphasize that they too are entitled to an "appropriate education," and must be assured it. At present, many are *not* getting it.

The Department of Education's proclamation that LRE is "the core value" has led to a great deal of confusion and misinterpretation about the primary provision of appropriate education.

The provision of an appropriate education is paramount. LRE, a purely *placement* issue, is secondary.

The Department of Education has nevertheless focused on LRE as the primary value on which the education of handicapped children must be based. On January 8, 1985, Assistant Secretary Will emphasized the importance of LRE:

> "Education in the . . . [LRE] is what I envision as the last barrier to full implementation of Public Law 94-142. This concept is becoming the cornerstone upon which federal special education policy is being built. It certainly is the core around which my own beliefs about special education have evolved in terms of early childhood programming, school age programming, transition services and adult services. In my own mind all have evolved with the concept of least restrictive environment as *the core concept.*"

As reflected in this statement, the Department and Assistant Secretary Will have, through technical assistance and compliance activities, created the impression among placement decisionmakers that their main concern *should* be LRE rather than appropriate education. At the same time, they have paid little attention to the probability of overlooking children's unique needs. They have said that there is a role for special schools. Most recently, they acknowledged that "In some cases, separate environments have been recognized as the least restrictive for some individual children."[42] However, this and other

statements are less well circulated and publicized than their pronouncements on the virtues of integration. As a result, many children receive inappropriate education or no education at all, the very same problems that prompted the passage of EHA more than 12 years ago.

Recommendation 5

The Department of Education should refocus the least restrictive environment concept by emphasizing appropriateness over least restrictive environment.

The National Council on the Handicapped's call for clarifying language to assure proper implementation of LRE is in essential agreement with our recommendation.[43]

The Department of Education incorrectly interprets LRE as eliminating curriculum content and method of curriculum delivery as factors to be considered in the placement of a child.

In its monitoring manual for compliance with EHA requirements, the Department of Education says that placement cannot be based on one or more of the following factors: category of handicapping condition, configuration of the service delivery system, availability of educational or related services, availability of space, and curriculum content or methods of curriculum delivery.[44] This prohibition does not appear in EHA nor in its implementing regulations.

The Department of Education explained that a removal from the regular class must be based solely upon the individual educational needs of the student, not upon the category, availability of services, or administrative convenience of the local agency.[45]

While we agree that placement decisions should not be made out of administrative convenience, we disagree with the Department's unqualified position that placement based on curriculum content or methods of curriculum delivery would always be for "administrative convenience," and would never be based on the child's unique needs. Clearly, for some children, curriculum, instruction, and services *are* of central importance in their placement. As explained earlier, what many individual children need may not be provided in the regular class or with the regular curriculum.

Regular educational settings are appropriate and adaptable to meet the unique needs of only some children who are deaf. There are cases when the nature of the handicap dictates a specialized setting, that provides structured curriculum and/or special methods of teaching and focuses on visual presentation of information. Some children need instruction on developing concepts in their first language before

a second language is introduced. Others need slower, more direct instructional methods in both general and specific academic areas. Most require intense English language instruction that provides concepts, practice, generalization, and reinforcement of language development. In some cases, a "critical mass," or minimum number of deaf students being educated together, will facilitate the most cost-effective delivery of educational services.

"Manual 10" precludes school officials and parents at an IEP meeting from considering instructional methodologies or content in placement decisions, even when they are required by the nature or severity of the child's handicap. Yet, it would be contrary to the avowed goal of an appropriate education *not* to consider the child's curricular needs. As one educator puts it, "Under these circumstances, . . . [placement decision makers are] shooting in the dark."[46]

The question is not whether a school has special curriculum or delivery methods, because the school is still required either to make those available or adapt its current provisions and techniques whenever necessary to meet the child's goals and objectives.[47] Rather, the question is whether what is provided is appropriate to meet the child's unique needs.[48] Thus, if it is determined, after the curriculum and its possible adaptations in a given placement with the use of supplementary aids and services have been considered, that the child's needs still cannot be satisfactorily met then it is not appropriate. So curriculum content and its delivery must be taken into consideration when determining placement—not for all children, but for those whose needs demand it.

Recommendation 6

The Department of Education should issue a policy statement to permit consideration in placement decisions of curriculum content and methods of curricular delivery required by the nature or severity of the child's handicapping conditions.

Lack of guidance or standards for exceptions to the LRE requirements based on the potential harmful effects on the child or the quality of services that the child needs frequently results in inappropriate decisions.

The federal rule provides for at least two exceptions to the LRE requirements based on potential harmful effects on the child or on the quality of services that the child needs.[49] It is not clear how these exceptions can be applied.

We were repeatedly told, in written and oral testimony, that the "potential harmful effects" provision has been blatantly ignored. Examples of such potential harmful effects include: (1) children with

an age span of 6 to 10 years in a single classroom for deaf students; (2) daily travel time to an educational program in excess of 2 hours each way; (3) cross-categorical groupings of students with different disabilities; and (4) classrooms of deaf students with a variety of secondary characteristics, including mental retardation, behavioral problems, learning disabilities, or—going to the other extreme—children who are especially gifted.

We believe that an age span of more than 3 years in a single classroom, unreasonable travel time, cross-categorical classrooms, and nonhomogeneous groupings of deaf students present potentially harmful effects on satisfactory educational progress. Such situations should not be tolerated, either in the placement process or in the monitoring conducted by the state educational agency and by the Department of Education.

Unless these two exceptions are defined, applying the LRE requirements will frequently result in improper placements and consequent harm to children who are deaf.

Recommendation 7

The Department of Education should issue guidelines and standards by which school officials and parents can, in selecting the least restrictive environment, consider potential harmful effects on the child or on the quality of services which the child needs.

Confusion still reigns over how removal from a regular educational setting could occur.

In its 1985 draft monitoring manual, entitled "Manual 10: Least Restrictive Environment," the Department of Education stated that removal from a regular class must be based only on "compelling evidence" demonstrating that the child is unable to achieve IEP goals and objectives in the regular class. This standard could be interpreted to mean that all handicapped children must be placed in regular programs regardless of their individual needs, and that they could only be transferred out *after* they had failed in these settings.

The standard of "compelling evidence" was one of several standards that did not appear in EHA nor in its implementing regulations. The draft manual drew numerous substantive comments and the Department of Education revised the manual, deleting many standards, including that of "compelling evidence." However, the revised "Manual 10" has not been circulated as widely as was the first version—so many parents and educators remain unaware of the deletion and are thus confused.

Testimony and documents we received clearly show that school officials often deny parents' requests for removal from the regular setting even when the parents argue that inappropriate education is occurring there. In some cases, removal took place only when the parents proved through a due process hearing that no such progress would occur or when local school officials finally recognized that the child was unable to benefit from the setting. In some other cases, parents moved to other districts or states to secure an appropriate placement for their child.[50]

Just as LRE requires a placement in the regular educational setting only when it is appropriate to the child's unique needs, it should also be interpreted to permit removal *on the same basis.* A policy statement from the Department to this effect is necessary to avoid improper placements and consequent damage to children.

Recommendation 8

The Department of Education should publish in the *Federal Register* a policy interpretation that removal from the regular classroom does not require compelling evidence.

LRE has been misinterpreted as requiring "local program" as taking precedence over appropriateness or as being synonymous with "mainstreaming".

Contrary to the requirement that LRE be considered in the context of the goals and objectives in each child's IEP, the prevailing interpretation of LRE continues to be based primarily on mainstreaming—though the term is never used in the law[51]—and on the integration of deaf children, regardless of the nature or severity of their handicap, into regular classrooms with nonhandicapped children.[52]

Testimony and written statements to us showed LRE is being used as a justification for placing children who are deaf in local programs or other similar programs even when they do not meet educational needs. Parents, consumers, and professionals have testified that state departments of education and LEAs interpret this provision to mean that, irrespective of ability to provide an appropriate education, the LEA must set up a class to educate children who are deaf when in fact an appropriate education cannot be achieved that way. For example, one educator reported:

> "Parents of these deaf children who are denied center school placement, on top of everything else that they must deal with, are essentially told that they must be content with the local program that the LEA offers, which usually means a program of relatively low cost to the LEA and oftentimes, a program of far less quality and benefit to the child than would be available in the center school. Except in

> some rare instances . . . many such deaf children are expected to accept local education programs, the quality of which a school district would not even begin to consider offering to hearing children!"[53]

LRE actually means that handicapped children should receive education with nonhandicapped children, *to the maximum extent appropriate.* If LRE is perceived as mainstreaming, the placement process is corrupted and prejudicial from the outset in that every child would be indiscriminately placed in the regular classroom, regardless of what makes sense for that unique individual pupil. In some cases presented to us, children who are deaf with ages ranging from 6 to 15 for example, have been placed together in a single class because the school district interpreted LRE as requiring such.

Parents, educators, and professionals complained to us that if residential schools are viewed as the "most restrictive environment," then they would be considered only as the last resort. The continuum of placements is ordered in terms of restrictiveness from least to most. The people, however, stated that this hierarchy itself has been more often misinterpreted as from "best" to "worst." Thus, under this misinterpretation, they said, the "best" alternative, i.e., a local classroom, must be chosen before other, bad, alternatives, i.e., center schools, could be considered, regardless of the unique needs of a handicapped child. In order to avoid such misinterpretation, one individual recommended to us that the continuum should be in a circle as shown in figure 2.4.

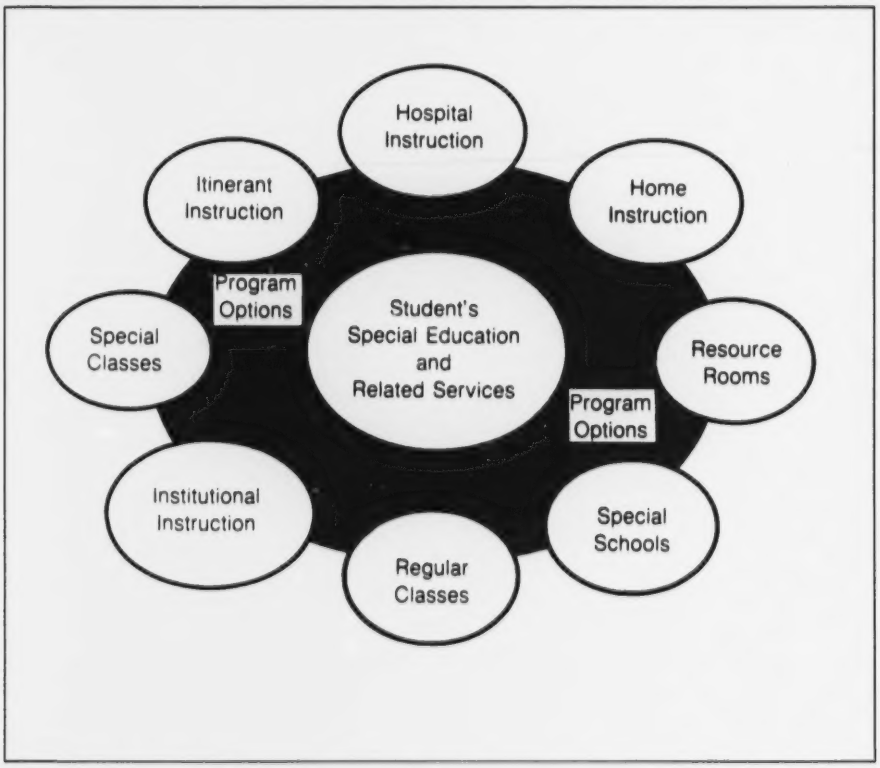
Despite EHA's preference for the regular educational setting, regular classrooms are not the least restrictive environment in serving the needs of many children who are deaf, even with the use of supplementary aids and services.

There is no doubt that some children who are deaf, including children who are prelingually deaf, benefit from education in regular classes. At the same time, we are concerned that people who make placement decisions often fail to recognize a built-in paradox: EHA prefers placement in regular classes as the least restrictive environment, yet such placement itself severely restricts, if not denies, many a child who is deaf from receiving an appropriate education that meets his or her needs.

The Supreme Court explained:

> "Congress recognized that regular classrooms simply would not be a suitable setting for the education of many handicapped children . . . ."[54]

Figure 2.4: Diagram for Continuum of Placement Alternatives



Source: B. Griffing (July 1, 1987).

Although supplementary aids and related services are crucial to the successful placement in regular classes for some children who are deaf, they are irrelevant for many individual children whose needs require specially designed instruction and services that are beyond the regular classes. That is especially true in areas of language and communication.

As the president of a state association puts it:

> "That environment [regular school] which may be the *least* restrictive in terms of the integration of other handicapped and non-handicapped students becomes the *most* restrictive in terms of basic communication between deaf children and their hearing peers, setting the stage for drastic retardation in development of identity, social skills, and maturity—something clearly unintended by. . .[the EHA]. Worse, severely limiting a deaf child's access to a whole range of experiences with other children and adults may also

> impede the child's ability to acquire and develop language, a factor which will limit his or her education permanently . . . ."[55]

A child who is deaf can learn as much as a hearing child. But, unlike hearing children, many children who are deaf do not start with any developed auditory-vocal language system, whether it be English, Spanish, some other spoken language, or even any form of sign language that they can use as an instrument of learning in class. Many deaf children start school in various stages of language acquisition, development, and proficiency.

This means that many such children have certain language-learning needs that may not be met in regular classrooms. Most regular classroom instructions require that the children have a developed language base to start with. Placing a child in the regular classroom without the language needed to function as a participant seriously impedes, if not precludes, the child from receiving any worthwhile education in the class, even with the use of supplementary aids and services (e.g., an interpreter). Compounding unnecessary delays in the child's education, such placement also results in profound effects on, if not permanent and irreversible damage to, the child's self-esteem.

Center schools, including those programs with a sufficient number of children who are deaf on a particular age and grade level, are the least restrictive environment appropriate for many children who are deaf.

Assistant Secretary Will acknowledged that:

> "In some cases, separate environments have been recognized as the least restrictive for some individual children. We recognize that, inherent in a free appropriate public education is a continuum of services, including separate facilities both public and private."[56]

EHA does not prohibit segregated classes or special schooling. In fact, it authorizes funding for education in these settings.[57] Nevertheless, this recognition is not evident in the law's local emphasis.[58]

The presumption of LRE, that a handicapped child should be educated with nonhandicapped children in the regular school placement, is rebutted upon showing that, due to the nature or severity of the child's handicap, education in the regular class with the use of supplementary services and aids "cannot be achieved satisfactorily." As matters now stand, only under these circumstances can special classes or separate schooling be prescribed.

A legal necessity exists for center schools.[59]

In many cases, appropriate education in the LRE for a child who has a severe to profound hearing loss means special classes or separate schooling. These settings provide the facilitating educational environment that regular academic settings lack—one that permits the child to communicate, interact, and learn most effectively.

In the regular settings major communication barriers exist. Many children who are deaf must struggle with them daily. These barriers are created not so much by people working in the system but rather by the auditory-vocal system that administrators, teachers, and hearing peers normally use in the setting. These barriers often adversely affect the ability of a child not only to socialize with others but also to benefit from education.

We emphasize that we certainly do not advocate center school placement for all children who are deaf, but rather stress that a center school placement for a child who is deaf must remain an available *option*; for many, it is the least restrictive environment.

Specialized educational programs in center schools for the deaf are important as placement choices, because they represent steps toward *preparing* deaf students to succeed in the mainstream of life as well as in the mainstream of education. Center schools, particularly residential schools, are also important for students who require more than the traditional 6-hour day to reach their level of expected competence.

Recommendation 9

The Department of Education should monitor states to ensure that they maintain and nurture center schools as placement options as required by law.

A growing number of center schools provide opportunities for partial integration into regular classes.

A growing number of center schools have provided opportunities for children who are deaf to interact with nonhandicapped children in various settings from partial integration to after-school activities. Experience has shown that partial integration appears to work better for some children who have a "home base" in a center school or special class within a regular school. At least one-third of residential schools have provided integrative programs as part of the school setting.[60] While integrative programs are not appropriate for all students, they are important in helping some children develop communication capabilities, social awareness, and academic skills.

Recommendation 10

The Department of Education should monitor states to ensure the availability and appropriateness of integrative programs for students in center schools.

Parents' Rights

In educational placement decisions, parents are often treated as limited partners, not as equal partners as required by law.

Parents, under EHA and its implementing regulations, are considered to be equal partners with school officials in developing the child's IEP.[61] IEPs are worked out and reviewed at a meeting with at least one of the parents taking part.[62] When the participants disagree about the contents of the IEP, the LEA has the ultimate responsibility for crafting the IEP, but the parents have the right to demand a due process hearing.[63] These and other procedural safeguards are established to:

> "guarantee parents both an opportunity for meaningful input into all decisions affecting their child's education and the right to seek review of any decisions they think inappropriate."[64]

As the Supreme Court puts it,

> "Congress repeatedly emphasized throughout the . . . [EHA] the importance and indeed the necessity of parental participation in both the development of the IEP and any subsequent assessments of its effectiveness."[65]

We received a number of responses and statements relating to the rights of parents under EHA in developing an IEP. One national organization representing parents of deaf children reported that although parents should be treated as equal partners with school officials, the degree of parental involvement in educational placement decisions has, "in practice, been very limited."[66] One parent stressed the importance of receiving information on the availability and appropriateness of programs to meet their child's educational needs:

> "In order for we as parents to be able to choose an appropriate program and to work with our children we must know what is available."[67]

We recognize that while parents can play a significant role in the level and appropriateness of services provided to their child, the degree of involvement depends largely on the amount of information the parents receive.

Many parents are not informed of all placements available to meet their child's unique needs.

Many parents said that they were not informed periodically of all educational options available to their children. In a policy letter on a similar issue, the Department of Education stated that during an IEP meeting, school personnel are *not* required to do so. The Department explained that when the child is initially referred, the school district must provide written notice to the parents regarding the continuum of alternative placements, ranging from placement in the regular classroom with supplementary aids to placement in a residential school. Since the parents should have already been informed, the Department stated, it would not be necessary for school personnel to initiate discussion about alternative placements during an IEP meeting. In this same letter, the Department said that, in the course of a meeting, the school district was not required to initiate discussion about residential placement if appropriate education was going to be provided in the regular educational setting.[68]

Even if parents have already been informed about the placement options, we feel that school personnel should *again* inform parents, during each IEP meeting, about the availability of alternative placements for their child. We recognize that school personnel are legally required to specify the placement which they believe provides the maximum appropriate education in a setting with nonhandicapped children. However, we feel parents have the right to regular information on other options within the continuum of alternative placements, and that they understand how the child's individual needs resulted in the placement recommendation. We emphasize that the following recommendation would apply to personnel in all school settings, including those in center schools.

Recommendation 11

The Department of Education should issue a policy statement requiring that school personnel inform parents of all options in the continuum of alternative placements during each individualized education program conference.

Evaluation and Assessment

Many personnel who evaluate the educational needs of deaf children are not trained or prepared to conduct evaluations. Many of them cannot use the child's mode of communication.

Educational agencies are required to evaluate each handicapped child's educational needs. EHA requires that the personnel who do conduct tests and evaluations must be "appropriately and adequately prepared and trained"[69] and that testing and evaluation procedures must be administered in the child's native language or other mode of communication, unless it is not feasible to do so.[70]

Because of the tendency to lump all children with special needs together, and because deafness is a low incidence handicap, the LEA responsible for the evaluation and assessment of its handicapped children often proves inadequate to the task. Evaluating a child who is deaf is a difficult and complex task, and a multidisciplinary approach is often necessary.

Public testimony and written communications to us confirm all the foregoing. Parents and professionals testified that many professionals relied upon to conduct assessments of deaf children cannot communicate in the child's mode. This causes misdiagnosis and inappropriate placement.

Apart from evaluators who lack the experience or skills to communicate with the children, another major problem is that evaluators often do not understand the communication and language development that apply to deaf children; nor do they recognize or comprehend the relationship between communication and language competence on the one hand, and opportunity for appropriate emotional and social growth on the other.

Recommendation 12

The Department of Education should monitor states to ensure that the evaluation and assessment of children who are deaf be conducted by professionals knowledgeable about their unique needs and able to communicate effectively in the child's primary mode of communication.

Program Standards

For those deaf students requiring placement in a special school or class, there is a great need for program standards if an appropriate education is to be achieved.

It is an unfortunate fact that states lack any educational standards that would ensure quality programs and related services, either in center schools, or in special classes within the regular educational setting. Naturally, as one might expect in the absence of such standards, the educational programs and services that are provided simply do not meet the children's needs.

To offer a more concrete sense of what we find missing, we are summarizing below a set of minimum program standards that were developed by the Conference of Educational Administrators Serving the Deaf and published in a document entitled "Framework for Appropriate Programs for Deaf Children."[71]

For the proper carrying out of a special educational program for children who are deaf, professionally qualified supervision and coordination—as distinct from mere administrative management—are required. So are qualified, credentialed teachers and related service personnel—who should be able to count on continuity and consistency in their instructional materials, techniques, and curriculum. Integrated into the overall program should be the means for teacher in-service and staff development, as well as education for parents.

Speech, language, and audiological services as well as guidance and counseling should be available as needed. An appropriate curriculum should be developed and implemented that includes all academic areas as well as nonacademic areas. Special curricular areas should include auditory and speech training, language development, and training in the proper use of interpreters. Nor should access to extracurricular activity be forgotten.

In sum, an educational facility and environment that provides smooth-flowing interaction and communication among all staff and students will be one that employs the modes most appropriate for meeting the unique needs of the individual student.

All these criteria need to be established and modified, as well, for students with multiple handicaps.

Recommendation 13

The Department of Education should encourage states to establish program standards for deaf students requiring special schools or classes.

Quality Education

The quality of education available to children who are deaf is poor.

Parents, deaf adults, and representatives of major national and state consumer organizations testified to the Commission on the poor quality of educational services for deaf children.

We were frustrated, however, in our attempts to respond within the context of EHA. The Supreme Court explained that the requirement of a "free appropriate public education" is met when a state educational agency provides personalized instruction with sufficient support services to permit the handicapped child to benefit from instruction, as developed in the child's IEP. The purpose of EHA was to provide access to programs or opportunities equivalent to the access or opportunities provided to nonhandicapped students. EHA does not require states to maximize the potential of each child commensurate with the opportunity provided nonhandicapped children.[72]

What happens in a classroom usually is determined at the local or state level, not at the federal level. As a result, there are limits to how much the Congress can do to enhance quality educational services.

In recent years, the states have responded to several indictments of the public school system, such as "A Nation at Risk," by enacting statewide excellence-in-education statutes. Few of these even mention, let alone establish goals and standards for, special education. We are concerned that the excellence-in-education movement, as healthy and appropriate as it may be, is in danger of overlooking urgently needed innovations in special education, notably in the education of children and youth who are deaf.

We recommend new legislation going beyond EHA. A "Quality in Deafness Education" law is needed to provide incentives to the states to incorporate into their statutes the provisions to advance the quality of services provided to students who are deaf.

The law could include the following specific provisions to require that the Department of Education:

- report on achievement levels of students in special education programs and classes;
- provide guidance to states on improvements that can be made in center schools and other programs serving large numbers of students with disabilities;
- provide incentives to the states to ensure that center schools and other large programs supported by state and federal funds take appropriate and timely steps to meet minimum requirements;[73]
- provide incentives to programs demonstrating better than average language acquisition and other academic progress;
- provide motivation for programs to achieve critical mass, to employ administrators and teachers with specialized training in deafness, and professional support staff who meet the highest level of the standards recommended by the Council on Education of the Deaf;
- provide a mechanism for rapid dissemination and national publicity for programs demonstrating successful and innovative solutions in these areas; and
- establish performance standards that would be required for further federal assistance beyond a certain date.

We do not believe it is appropriate for the Congress to tell states and local school districts how to teach children with disabilities. But, we do believe that the traditional role of the Congress in acting to protect the most vulnerable among our citizens makes it entirely appropriate for the Congress to exercise a degree of "quality control"—to

insist, now that we have had more than a decade of experience with EHA, that mere access to education and due process no longer are enough—states must ensure that a certain minimal level of education is made available.

Recommendation 14

The Congress should pass a "Quality in Deaf Education" bill that would provide incentives to the states to enhance the quality of services provided to students who are deaf.

American Sign Language[74]

As one of our country's minority languages, American Sign Language (ASL) plays a vital role in the education of children whose native language is ASL.

We recognize that ASL is a language in its own right. Over the past decade, there has been a rapid accumulation of evidence that the sign languages of the world are fully developed, autonomous, natural languages with grammars and art forms all their own. Accordingly, the United Nations Educational Scientific and Cultural Organization has concluded that such languages should be "afforded the same status as other linguistic systems" and should play "an active part in . . . educational programs for the deaf."[75] ASL has received particular study and informed scholars agree that ASL is one of our country's authentic minority languages. Several states have recently passed legislation providing for the teaching of ASL in the schools on the same basis as other indigenous and foreign minority languages in the United States.

A bureaucratic gap exists between the protection afforded to members of minority groups who use a language other than English and the protection granted to students who are deaf and whose native language is ASL.

Although laws exist to protect members of language minorities and persons with handicaps, those children who became members of a language minority *because* of their handicap are not protected: they have fallen into the cracks between two bureaucracies. Lacking the recent evidence that ASL is a minority language, the federal agencies entrusted with promoting the education and rights of minority-language users have so far dismissed deaf ASL users as merely handicapped. At the same time, agencies entrusted with ensuring effective education for the handicapped have, understandably, dismissed the central educational issue for many deaf children—their minority-language status. Agencies have thus attempted to serve children who are deaf just as they serve all other classes of handicapped children whose education is already conducted in their primary language.

The Department of Education has not recognized ASL as one of the native languages for the purposes of the Bilingual Education Act.

The motivating policy and definitions of the Bilingual Education Act, as well as the regulations issued by the Department of Education to implement the act, all suggest the appropriateness of grant applications that address the educational needs of children whose primary language is ASL. Indeed, such children are particularly disadvantaged by an English-only education; like their Spanish-speaking counterparts, they are being educated in a language they are struggling to learn; unlike them, however, most have no familiarity with any other oral language and cannot hear English, which they must learn by indirect means.

The federal regulations implementing the act spell out the limited-English-proficiency students to whom the act applies. The wording makes clear that children whose primary language is ASL, whether or not they learned it from their parents, are directly affected. Included are:

> "[Individuals] whose native language is other than English . . . . 'Native language' when used with reference to an individual of limited English proficiency, means the language normally used by the individual. If the language normally used by the child cannot be determined, the language normally used by the parents or legal guardians of the child is the child's native language."[76]

Many of the programs under the Bilingual Education Act could potentially benefit children who use ASL.

In passing the Bilingual Education Act, the Congress recognized:

> "(1) that there are large and growing numbers of children of limited English proficiency;
>
> (2) that many such children have a cultural heritage which differs from that of English proficient persons;
>
> (3) that the Federal Government has a special and continuing obligation to assist in providing equal educational opportunity to limited English proficient children;
>
> (4) that the Federal Government has a special and continuing obligation to assist language-minority students to acquire the English language proficiency that will enable them to become full and productive members of society;
>
> (5) that a primary means by which a child learns is through the use of such child's native language and cultural heritage;

> (6) that large numbers of children of limited English proficiency have educational needs which can be met by the use of bilingual educational methods and techniques . . . ."[77]

Many of the federally assisted bilingual education programs could have a significant impact on the educational achievement of children who use ASL: basic programs, academic excellence programs, family English literacy programs, special populations programs, state educational agency programs, evaluation assistance center programs, educational personnel training programs, fellowships programs, training development and improvement programs, short-term training programs, and multifunctional resource center programs.

Bilingual-bicultural instruction includes: academic "subject matters" taught transitionally, at least in the pupil's primary language; English as a Second Language (ESL); the history, culture, and language arts of the student's minority-language group; and American culture and history. The goal is to teach the student English so that he or she can ultimately be educated exclusively in English without falling behind in other studies. This objective is met by fostering a healthy self-image, developing cognitive powers, creating a bridge to the child's existing linguistic and cultural knowledge, and developing reading and expressive skills in English.

Scientific studies have demonstrated that a child who is unable to use language fluently at home and at school is severely disadvantaged in cognitive development and education.[78] The potential advantages of extending bilingual-bicultural programs to ASL-using children are similar to those for other language-minority children. There would be an infusion of new ideas and methods for teaching this minority, including new strategies for teaching English; improved English literacy; improved academic achievement scores; improved emotional adjustment; decreased need for counseling services; increased class size, without reduction in individualized attention; decreased dropout rates; decreased underemployment on leaving school; increased bilingual fluency of classroom teachers; teaching careers opened to adult minority-language users; enhanced teacher-pupil communication; and enhanced parental communication with teachers and pupils.

We urge that outmoded educational policy be brought into line with recent scientific discoveries in linguistics and psychology. It has been shown repeatedly that children whose primary language is ASL, like those who speak other minority languages such as Spanish or Navaho, are at a severe educational disadvantage in a system that disbars, denigrates, and denies their primary language. It is reasonable to believe that the same educational remedies provided by the Congress and the courts for the speakers of all minority languages will benefit ASL-

speaking children. In any case, it is the law. Recognizing that ASL is one of the minority languages of the country, we find it necessary to close the bureaucratic gap by urging that the Department of Education apply existing statutes and regulations, and by requesting that the Congress appropriate funds for this purpose.

Recommendation 15

The Department of Education should take positive action to encourage practices under the Bilingual Education Act that seek to enhance the quality of education received by limited-English-proficiency children whose native (primary) language is American Sign Language.

Gallaudet University's Pre-College Programs

The Kendall Demonstration Elementary School (KDES) and the Model Secondary School for the Deaf (MSSD) were originally established as model programs to prepare deaf students for advanced study and to stimulate program improvement nationwide.

Although KDES existed before 1965, KDES and MSSD were established in their present form as a result of the 1965 Babbidge Committee Report. The report deplored the lack of systematic education for the majority of preschool deaf children, the limited secondary opportunities for deaf students nationwide, the low level of educational achievement attained by many secondary school graduates who were deaf, and the low allocation of funding for research.[79] The Congress expanded the mission of GU in 1966 to include the operation of MSSD and again in 1970 to operate KDES. The KDES Act[80] and the MSSD Act[81] directed the two schools to "provide an exemplary educational program to stimulate the development of similar excellent programs throughout the Nation." This mission was to include educating elementary and secondary hearing-impaired children on the GU campus.

The Education of the Deaf Act of 1986 (EDA) requires that any state or local educational agency that places a child at KDES or MSSD be responsible for seeing that the requirements of part B of EHA are met. KDES primarily serves residents from the District of Columbia and the surrounding Virginia and Maryland suburbs. It had an enrollment of 197 students in the fall of 1986. MSSD draws students from all states, but its primary service area includes the District of Columbia, Delaware, Maryland, Pennsylvania, Virginia, and West Virginia. It had an enrollment of 367 students in the fall of 1986. Both KDES and MSSD maintain the following policies and procedures: Each school is required to give all agency representatives every opportunity to participate in IEP meetings and must provide copies of any signed

IEP to the appropriate agency. KDES and MSSD also notify the parents and the appropriate agency any time a change in the IEP is considered, and must receive approval from both the agency and the parents before making a change in the IEP.[82]

EDA further charges KDES with providing elementary-level educational facilities for individuals who are deaf "in order to prepare them for high school and other secondary study."[83] MSSD is authorized to provide both day and residential facilities for secondary education to individuals who are deaf "in order to prepare them for college and for other advanced study."[84] In carrying out its function to prepare students for college, MSSD has adopted an admissions policy that stipulates "potential students to demonstrate reading levels of third grade or higher."[85] GU reports that 78 percent of former MSSD students continued their education beyond high school, with nearly one-fourth of that number completing programs of advanced study.[86]

Many elementary and secondary programs nationwide are now successfully preparing academically oriented students who are deaf for advanced study. Educators currently demand programs and products directed toward other special subgroups within the deaf student populace.

Students who are lower achieving academically. While KDES and MSSD have been preparing their students for postsecondary education and providing assistance to other programs to do likewise, many educators told the Commission they are able to serve academically oriented students for advanced study without reliance on the GU Pre-College programs. They said that their present needs include programs, products, technical assistance, and outreach efforts designed for students who are unable to achieve satisfactory academic progress. Such students may be average or above average in terms of intelligence, but due to ineffectual educational practices, they are functioning at the first, second, or third grade levels academically.

Students who have secondary handicaps. Citing the demographic trends previously discussed, many professionals expressed a need for programs and products appropriate for students with secondary disabilities. As reported in the Annual Survey, the percentage of deaf children identified as having one or more additional handicapping conditions is about 30 percent.[87] Since secondary handicapping conditions often include learning disabilities and mental retardation, special methods and materials must be developed to appropriately address the particular needs of these students.

Students who are from non-English speaking homes and/or members of minority groups. Another subgroup that warrants special attention is comprised of students whose first language is not English. The increase in the percentage of deaf children who are members of minority groups has important educational implications:

> "Many children from minority backgrounds live in homes in which English is less frequently used than Spanish or some other language. Exposure to a language different from the language used in the classroom . . . can be a further complication in the general language development of hearing impaired children."[88]

Unique educational approaches are obviously required to help students from non-English speaking homes learn English. For example, programs which take full advantage of ASL, using it to advance English language acquisition, are needed for deaf children of deaf parents. Minority students who come from English-speaking homes need educational approaches that appropriately address cultural differences to enhance the efficacy of their instruction.

Recommendation 16

The Congress should amend the Education of the Deaf Act to set certain priorities at the Kendall Demonstration Elementary School and the Model Secondary School for the Deaf, require annual reports to the Congress and the President, and require an evaluation and report every 5 years by the Department of Education's liaison office.

Priorities

Specifically, KDES and MSSD should provide exemplary programs to stimulate the development of similar programs across the nation. These exemplary programs should be developed to meet the critical needs at the elementary and secondary levels through research, development, training, and technical assistance. The current critical needs identified by the Commission relate to the following special populations and their families:

- students who are lower achieving academically;
- students who have secondary handicaps;
- students who are from non-English speaking homes; and
- students who are members of minority groups.

Admission criteria should be changed to be congruent with the special populations addressed. The mission and focus of MSSD should be redefined so that it remains a comprehensive program serving a wide variety of deaf students while admitting a student population which more closely mirrors the national demographics of secondary school-age deaf children. Materials and other product development of KDES

and MSSD should first address the special populations defined above and the special needs of deaf students in transition.

Annual Report

KDES and MSSD should submit an annual report to the President and to the Congress, which lists critical needs, describes programs and activities designed to meet those needs, and evaluates their effectiveness.

Evaluation and Report

Before reauthorization, or at least every 5 years, the Department of Education liaison office should coordinate the formation of an independent evaluation team of experts, including consumers, representatives from major organizations in the area of deafness, and representatives from a variety of educational programs, including mainstream programs. The evaluation team should provide an objective assessment of the progress made by KDES and MSSD in meeting the identified critical needs. A report of the evaluation should be provided to the President and to the Congress, including the names of the experts and consumers conducting the assessment, a presentation of their findings, and the response of KDES and MSSD to the evaluation. In addition, the experts should delineate the critical needs to guide the programs during the next funding cycle.

[1]T. E. Allen, M. A. Karchmer, and S. C. Brown, *Deaf Students and Their Schools: The Changing Demographics* (Washington, D.C.: Gallaudet Research Institute, in press).

[2]D. F. Moores and T. N. Kluwin, "Issues in School Placement." In A. N. Schildroth and M. A. Karchmer (eds.), *Deaf Children in America* (San Diego, Calif.: College Hill Press, 1986), pp. 105-23.

[3]Public Law 94-142, 89 Stat. 773 (1975).

[4]See 20 U.S.C. 1401-61(1982) (Supp. IV, 1986).

[5]At 1412(1).

[6]*Board of Education v. Rowley*, 458 U.S. 176, 181 (1982).

[7]20 U.S.C. at 1412(5)(B).

[8]Allen, *Deaf Students*.

[9]Allen.

[10]Allen.

[11]Allen.

[12]Allen.

[13]Allen.

[14]A. B. Wolff and J. E. Harkins, "Multihandicapped Students." In A. N. Schildroth and M. A. Karchmer (eds.), *Deaf Children in America* (San Diego, Calif.: College Hill Press, 1986), pp. 55-82.

[15]R. J. Trybus, Statement (June 16, 1987).

[16]L. S. Liben, "The Development of Deaf Children: An Overview of Issues," *Deaf Children: Developmental Perspectives* (New York: Academic Press, 1978).

[17]D. Denton, Statement (Mar. 17, 1987).

[18]S. P. Quigley and P. V. Paul, "English Language Development." In M. C. Wang and M. C. Reynold (eds.), *Research Integration of Selected Issues in the Education of Handicapped Children* (1986), Vol. II, Sec. 1.

[19]T. E. Allen, "Patterns of Academic Achievement Among Hearing Impaired Students: 1974 and 1983." In A. N. Schildroth and M. A. Karchmer (eds.), *Deaf Children in America* (San Diego, Calif.: College Hill Press, 1986), pp. 161-206.

[20]A recent NIH study offers evidence that deaf students can attain reading levels far above those shown in figure 2.3. Further analysis is under way to describe the variables contributing to this significant difference.

[21]M. Cassidy and S. Harvey, Statement (Mar. 17, 1987).

[22]20 U.S.C. at 1401(18).

[23]"Culture" in the educational setting refers to knowledge—often unspoken and perhaps even below the level of conscious awareness—shared by teacher and students who cooperatively accomplish their social affairs. The shared knowledge, gradually accumulated over the months, makes it possible for the participants to make sense of what it is they do together.

[24]This list should not be considered an exhaustive summary of all relevant factors which warrant examination; neither does the order in which these factors are listed reflect the relative importance of each component. These factors are often interrelated.

[25]The law permits a child to participate in an IEP meeting whenever appropriate (20 U.S.C. at 1401(19)). In those cases where the child does not participate, the child's parents should express the child's placement preference.

[26]The Department of Education issued a policy letter stating that an IEP for a deaf child may include, as related services, parent counseling and training; e.g., training parents to use the mode of communication that their child uses as part of an educational program. Education for the Handicapped Law Report (EHLR): Binder 1978-87, EHA Rulings/Policy Letter, 211:399 (1986).

[27]Draft Recommendation 1 (52 Fed. Reg. 32,733) stated: Federal policy should require that determination of an "appropriate" special educational program for a child who is deaf take into consideration the following factors: (a) Severity of hearing loss, (b) Academic level, (c) Communication needs, (d) Social needs, (e) Emotional needs, and (f) Linguistic needs.

[28]Emphasis in original. Department of Education, Statement (Sept. 29, 1987).

[29]Department of Education, NODR1 #244 (Oct. 23, 1987).

[30]Bay Area Center for Law and the Deaf, NODR2 #199 (Oct. 15, 1987).

[31]S. Carmichael, Statement (Mar. 17, 1987).

[32]20 U.S.C. at 1412(5)(B).

[33]See *Board of Education v. Rowley*, 458 U.S. at n.4; *A.W. v. Northwest R-1 School District*, 813 F.2d 158, 162-163 (8th Cir.), *cert. denied*, 56 U.S.L.W. 3244 (1987); *Rockner v. Walter*, 700 F.2d 1058, 1063 (6th Cir.), *cert. denied*, 464 U.S. 864 (1983); *Springdale School District #50 v. Grace*, 693 F.2d 41, 43 (8th Cir. 1982), *cert. denied*, 461 U.S. 927 (1983).

[34]20 U.S.C. at 1412(5)(b). The Department of Education explains that LRE has established two basic principles for the educational placement of handicapped children: The first principle is a presumption in favor of placement in the regular education environment. The second principle is that, to the maximum extent possible, handicapped children must be educated with children who are not handicapped. The Department of Education, Statement, (Mar. 17, 1987).

[35]34 C.F.R. at 300.551(b)(1) (1987).

[36]At 300.552(a).

[37]At 300.552(b).

[38]At 300.552(c).

[39]At 300.552(d).

[40]Comment to 34 C.F.R. 300.552(emphasis added).

[41]EHLR: Binder 1978-87 EHA Rulings/Policy Letters, 211:433-4.

[42]Letter from Assistant Secretary M. Will, Office for Special Education and Rehabilitative Services, the Department of Education, to David L. Holmes, National Association of Private Schools (Nov. 30, 1987).

[43]In its 1986 report to the President and the Congress, the Council recommended:

"Congress should direct the Department of Education to promulgate and enforce standards for the application of the least restrictive environment requirement; such standards should clarify that the primary determinant of which educational setting is the least restrictive is the educational appropriateness of the program."

Toward Independence: An Assessment of Federal Laws and Programs Affecting Persons with Disabilities (1986), p. 48.

[44]U.S. Department of Education, Office of Special Education Programs, *Standards and Guidelines for Compliance With Federal Requirements for the Education of the Handicapped*, (1986), p. 20.

[45]EHLR: Binder 1978-87 EHA Rulings/Policy Letters, 211:442-4.

[46]W. McChord, Statement (Mar. 17, 1987).

[47]In this regard, the Commission holds that placement decisions should not be based on availability of curriculum and content or methods of curriculum delivery.

[48]In support of its position on administrative convenience, the Department of Education cites the following statement in the House Report on the Education of the Handicapped Act Amendments of 1986:

"The Committee heard testimony at the hearings regarding the relationship between the least restrictive environment provisions in the law and administrative convenience of the agency providing special education and related services. It is the Committee's understanding that a child's special education needs are the determining factors in designing an appropriate program, *not the availability of certain services or administrative convenience* . . . ."

EHLR: Binder 1978-87 EHA Rulings/Policy Letters at 211:444 (emphasis added).

Except for availability of certain services and administrative convenience, nothing in this statement supports the Department's position that placement based on curricular factors would always be for administrative convenience.

[49]34 C.F.R. at 300.552(d).

[50]One educator testified to the following actions that parents took to ensure center school placement of their child: relocation to school districts which view center school placements more favorably (i.e., are more respectful of parents' wishes and seem more concerned for the welfare of the child); placement of children in guardianship of a relative who lives in a more favorable district or state; establishment of false residencies in another district or state; and placement of children in a religious school several hundred miles away. J. Voss, Statement (Mar. 17, 1987).

[51]See e.g., *Springdale School District v. Grace*, 693 F.2d at 43.

[52]Mainstreaming may be interpreted as including a range of alternative provisions for those needing a more specialized program than the regular class offers. See "The Council for Exceptional Children, What Is Mainstreaming?" *Exceptional Children*, Vol. 43 (1975), p. 174. Based on testimony and responses received, the Commission, however, finds the term's prevailing interpretation as not including alternative placements.

[53]J. Voss, Statement (Mar. 20, 1987).

[54]*Board of Education v. Rowley*, 458 U.S. at n.4; see 20 U.S.C. at 1412(5).

[55]J. Maurer, President, Pennsylvania Society for the Advancement of the Deaf, Inc. in a letter to the Department of Health, Education, and Welfare (predecessor of the Department of Education) (1980).

[56]Letter from Assistant Secretary Will to David L. Holmes, (Nov. 30, 1987).

[57]20 U.S.C. at 1401(16).

[58]Federal funds under part B of EHA are based on "child counts" in each state and locality, 20 U.S.C. at 1411. Under the federal allocation formula, 75 percent of the funds go directly to LEAs; the remaining 25 percent is marked for state education agencies to cover administrative costs and state programs (at 1411(c)(1)). One of the effects of the local emphasis in funding is to provide an incentive for state agencies to establish their own programs rather than pay center schools to educate the child. As another disincentive for referral to an out-of-district placement, the local district is responsible for transportation to and from the supportive services that are part of the child's special education, 34 C.F.R. at 300.306. Thus, the local district has a financial interest in determining its local program to be "appropriate." At the same time, local districts undercut center schools.

[59]R. Silverstein, "The legal necessity for residential schools serving deaf, blind, and multi-handicapped sensory-impaired children," *American Annals of the Deaf*, Vol. 131 (1986), pp. 80-84.

[60]W. N. Craig, and J. Salem, "Partial Integration of Deaf with Hearing Students: Residential School Perspectives," Western Pennsylvania School for the Deaf.

[61]34 C.F.R 300.340-.349(1987).

[62]At 300.343(a) and 300.343(a)(3). Appendix C to the regulations (in response to question #26) explains the role of parents at IEP meetings: The parents of a handicapped child are expected to be equal participants, along with school personnel, in developing, reviewing, and revising the child's IEP. This is an active role in which the parents (1) participate in the discussion about the child's need for special education and related services and (2) join with the other participants in deciding what services the agency will provide to the child.

[63]34 C.F.R 300.506-.513 (1987).

[64]*Honig v. Doe*, 56 U.S.L.W. 4091 (U.S. Jan. 20, 1988)(No. 86-728).

[65]*Honig*.

[66]American Society for Deaf Children, Statement (Mar. 17, 1987).

[67]M. Lanier (July 1, 1987).

[68]EHLR: Binder 1978-87 EHA Rulings/Policy Letters, 211:383-4, (1986).

[69]20 U.S.C. at 1413(3).

[70]At 1413(5).

[71]R. G. Brill, B. MacNeil, and L. R. Newman, *American Annals of the Deaf*, Vol. 131 (1986), pp. 65-77.

[72]*Board of Education v. Rowley*, 458 U.S. at 189.

[73]We envision the new law as providing guidance and incentives in the following areas: extracurricular activities (scope, breadth, degree of participation possible and actually achieved); availability and use of technology and assistive devices; media services providing multisensory experiences for deaf children, enriching their learning opportunities; transitional services demonstrating success in facilitating movement from school to work and to independent living in the community; and specialized services, such as driver's education, art, typing, and other aspects of a well-rounded curriculum, provided effectively.

[74]Harlan Lane contributed significantly to the development of this section.

[75]*Consultation on the Different Approaches to Educating the Deaf* (Paris: UNESCO 1985).

[76]34 C.F.R. 500.4 (1987).

[77]20 U.S.C. 3222 (1982).

[78]A. Willig, "A Meta-Analysis of Related Studies on the Effectiveness of Bilingual Education," *Review of Educational Research*, Vol. 55 (1985), pp. 269-317. For a review of literature on the advantages accruing to deaf children from homes in which family members sign, see M. Rodda and C. Grove, *Language, Cognition and Deafness* (Hilsdale, N.J.: LEA, 1987).

[79]The House report accompanying the MSSD Act cited the Babbidge findings of "significant inadequacies in the educational services for the deaf, particularly noting the lack of a genuine secondary school program for deaf persons." H.R. 2214, 91st Cong. 2d sess. 2, *reprinted in* 1966 U.S. Code & Admin. News 3527 and 3528.

[80]Public Law 91-587, 84 Stat. 1579 (1970).

[81]Public Law 89-694, 80 Stat. 1027 (1966).

[82]Gallaudet University, NOI #275 (June 12, 1987).

[83]20 U.S.C. 4311(a)(1)(Supp. IV, 1986).

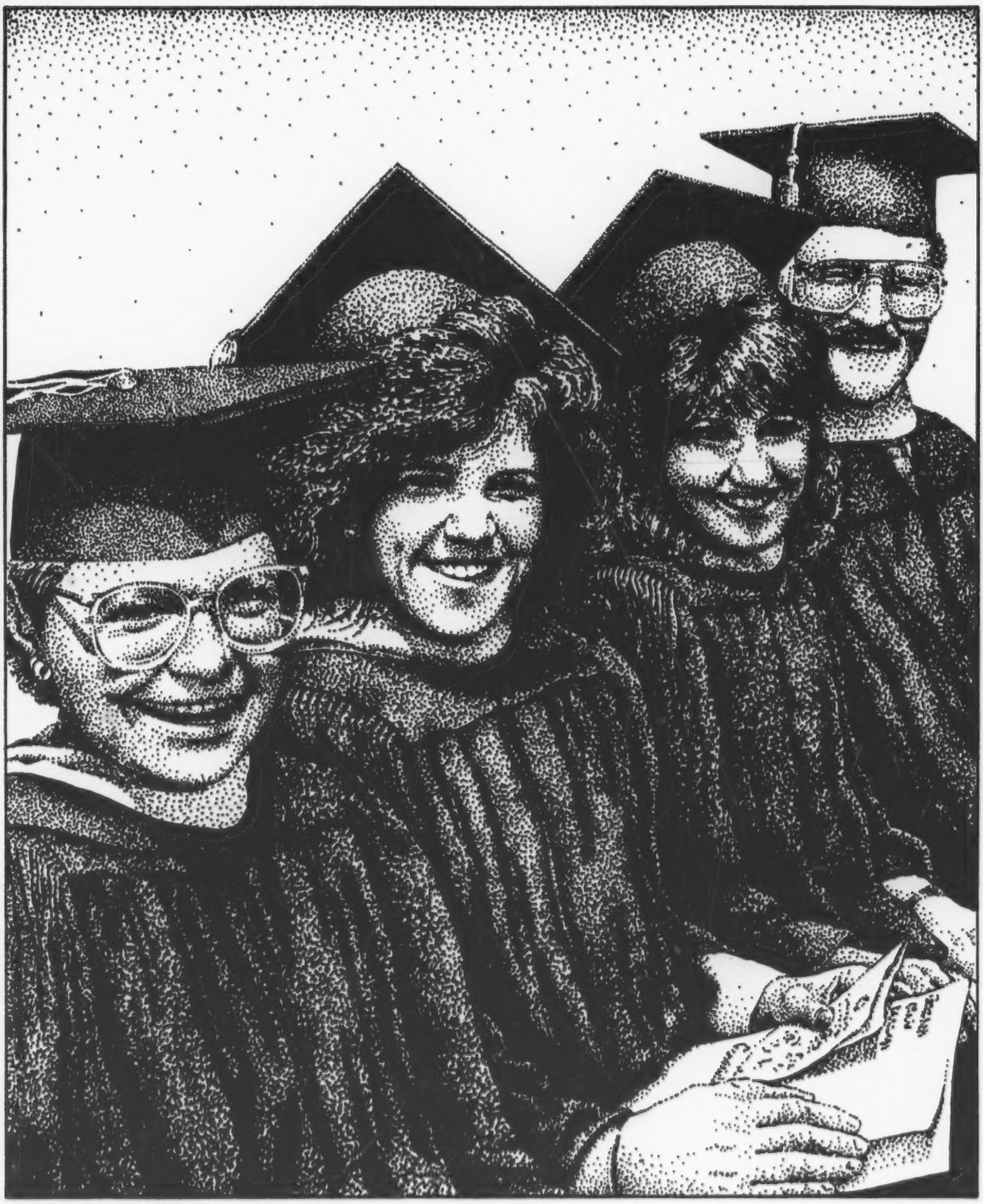
[84]At 4321(a).

[85]Gallaudet University, NOI #275 (June 12, 1987).

[86]Gallaudet University, Statement (Mar. 1987).

[87]Wolff and Harkins, "Multi-handicapped Students."

[88]A. N. Schildroth, "A Look Into the Future: What Will Students Be Like?" *Perspectives*, (Nov./Dec. 1986), pp. 19-21.



Federal Postsecondary Educational Systems

Summary

There has been a significant upturn in postsecondary education for deaf persons since the 1965 Babbidge Committee Report, when college education was available primarily at Gallaudet University (GU) (then Gallaudet College). The upturn began during the late 1960's when new legislation established the National Technical Institute for the Deaf (NTID) and four Regional Postsecondary Education Programs for the Deaf (RPEPDs). Section 504 of the Rehabilitation Act also sparked a proliferation of college programs nationwide—at least 145 of them educating 7,031 students, with over half of the students attending the federally supported programs, according to the 1986 *College Guide*.

Our first concern in the postsecondary area focuses on the new programs established because of section 504. Though the impetus for most of the new programs *was* section 504, it turns out that very few of them may actually offer the range of supportive services required to allow us to consider them in effective compliance with section 504. We also note that the RPEPDs cannot offer a full range of educational options, partly due to budgetary constraints. One suggested remedy would be to expand the role and funding of the regional programs by offering a continuum of diverse programs from vocational training to adult education, which would answer the needs of all deaf students. This expanded role would provide a critical mass of students, which allows better and more varied supportive services and a more successful educational outcome. The regional programs would also provide technical assistance to other institutions in improving their supportive services to deaf students.

We also recommend that a fifth RPEPD be established in the southwest region of the United States to remedy the inequitable geographical distribution of the current regional programs. In addition, we recommend a 5-year funding cycle to replace the current 3-year cycle which would permit greater program continuity, better planning flexibility, and more security for administrators, faculty, staff, and students. The awards should still be made competitively, based on merit. Finally, the host institutions of the regional programs should drop out-of-state tuition requirements.

Our second concern centers around the serious lack of rehabilitation training and related services for an estimated 100,000 deaf adults of all ages who are unemployed or severely underemployed in the United States. Therefore, we recommend that one comprehensive center be established in each of the 10 federal regions.

Other issues revolve around the need for the Department of Education to take a more active role in regard to the substantive content

and quality control of the federally supported national and regional programs, the value in eliminating federal subsidies for foreign students, and the importance of including a majority of deaf persons on the governing boards of these institutions.

Higher Education—Progress and Problems

Phenomena Influencing the Growth of Postsecondary Education for Deaf Students

Programs and enrollments in postsecondary educational programs for students who are deaf have increased dramatically in the past 20 years.

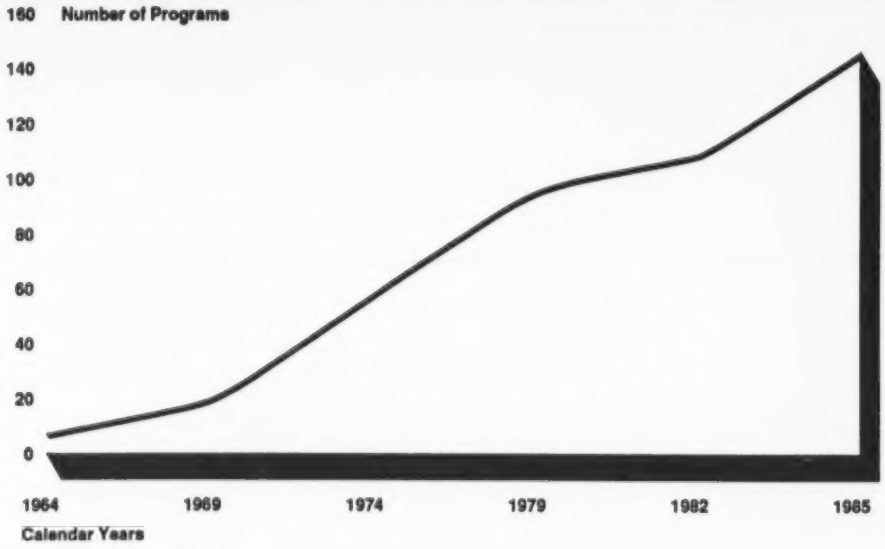
Various legislative mandates enacted during the 1960's and 1970's, the rubella (German measles) epidemic of 1963-65, and other demographic and social trends—each in its own way—have been responsible for the great increase in postsecondary programs and enrollments for students who are deaf nationwide.

The first phenomenon to influence postsecondary opportunities for deaf students was the passage of a series of laws during the 1960's and 1970's. In 1968, NTID was established at the Rochester Institute of Technology as the first national program for deaf students pursuing technical and vocational degrees. One year later, four Regional Postsecondary Education Programs for the Deaf were begun at California State University at Northridge (CSUN), Delgado Community College in New Orleans, St. Paul Technical Institute (St. Paul TI), and Seattle Community College (SCC), for deaf students pursuing a variety of degrees, including vocational, technical, and liberal arts degrees. In 1983, funds were transferred from Delgado Community College to the University of Tennessee Consortium.

Section 504 of the Rehabilitation Act of 1973 sparked a proliferation of college programs serving students who are deaf, as well as students with other disabilities.

Section 504 of the Rehabilitation Act of 1973, as amended, requires that universities and colleges provide support services to enable qualified individuals with handicaps to participate in or benefit from a federally assisted program.[1] *The College and Career Programs for Deaf Students—1986 (College Guide)* reveals a great increase in the number of colleges and universities around the country offering support services (e.g., interpreters, tutors, notetakers, personal and vocational counseling, and special classes), increasing from six programs in 1964 to 145 in 1985 (see figure 3.1).[2] The growth in postsecondary programs is most striking in state and local colleges where support services were established in an attempt to meet section 504's requirements.

Figure 3.1: Growth of Postsecondary Programs for Deaf Students



Source: B. Rawlings, M. Karchmer and J. DeCaro, "Postsecondary Programs for Deaf Students at the Peak of the 'Rubella Bulge'." *American Annals of the Deaf*, Vol. 132 (Mar. 1987).

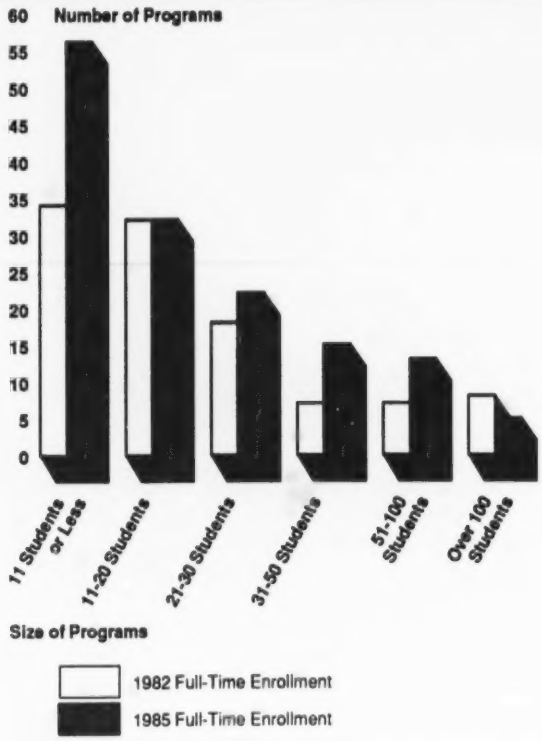
The second phenomenon influencing postsecondary programs for deaf students was the rubella epidemic of 1963-65. Because of its effect on pregnant women, the epidemic caused approximately 6,000 to 8,000 more children to be born deaf during the 3-year period than in previous years; and so the 1980's have seen a temporary increase in college enrollment of students who are deaf.[3]

For fall 1985, the *College Guide* listed 145 programs enrolling 7,031 full- and part-time students.[4] A recent study indicated that this is a 21-percent increase since 1982—just before large numbers of rubella-deafened students entered postsecondary programs.[5] It is estimated that by 1990, the influx of these students will be fully accommodated and enrollments will stabilize.

Program Size

The programs listed in the *College Guide* include vocational/technical, 2-year technical, 4-year technical, 2-year liberal arts, 4-year liberal arts, and graduate programs. The majority are small programs—61 percent enrolled fewer than 20 full-time students who are deaf. Only five programs—GU, NTID, CSUN, St. Paul TI, and Los Angeles Trade Technical College—consistently reported enrollments of 100 or more students (see figure 3.2).[6]

Figure 3.2: Size of Programs for Students Who Are Deaf, 1982 and 1985



Size of programs is based on the number of deaf students enrolled full-time; one program in 1982 and two programs in 1985 did not report enrollment.

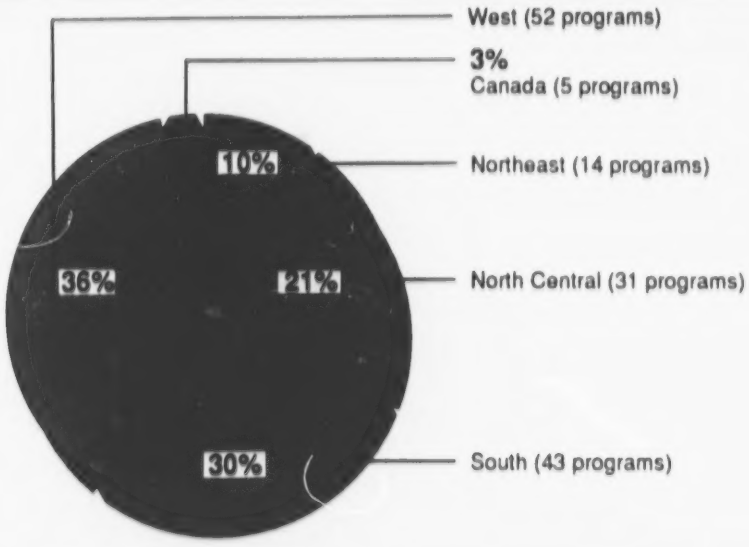
Source: B. Rawlings, M. Karchmer and J. DeCaro, "Postsecondary Programs for Deaf Students at the Peak of the 'Rubella Bulge'." *American Annals of the Deaf*, Vol. 132 (Mar. 1987).

Geographical Distribution

There is an uneven geographical distribution of postsecondary education programs for students who are deaf with most programs concentrated on the east and west coasts.

The *College Guide* reveals that these programs are located in 35 states and five Canadian provinces with concentrations on both coasts (see figure 3.3).[7] California alone reported 32 programs. Although the western region has the most programs, the southern region enrolled the largest number of full-time students (2,395), mainly because of the presence of GU, which claimed the largest enrollment for all schools (1,517).[8] The northeast region enrolled the next largest number of students (1,494), with the majority (1,296) at NTID.[9]

Figure 3.3: Number of Programs for Students Who Are Deaf by Geographical Location



Source: B. Rawlings, and S. King, "Postsecondary Educational Opportunities for Deaf Students," In A. N. Schildroth and M. A. Karchmer, (eds.) *Deaf Children in America* (San Diego, Calif.: College Hill Press, 1986).

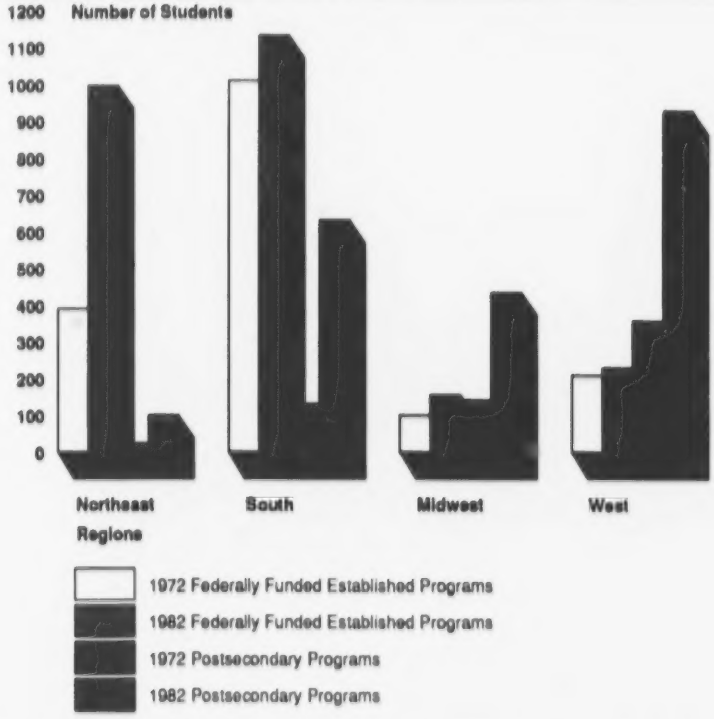
Another national survey has pointed out that enrollments for postsecondary programs increased dramatically in the midwestern, southern, and western regions of the United States during a 10-year period from 1972 to 1982. Enrollments increased five-fold in the south, tripled in the midwest, and doubled in the west (see figure 3.4).[10]

Poor Program Quality

Many of the new postsecondary programs do not adequately meet the needs of college students who are deaf.

We received testimony regarding the criteria needed for a quality postsecondary education for students who are deaf. Suggested criteria generally supported the principles proposed by the Conference of Educational Administrators Serving the Deaf (CEASD), which include: a balanced and qualified faculty, a full range of support services, and a minimum number of students. This last criterion is often referred to as critical mass—the concept that it is easier and more cost effective to provide support services when there is a minimum number of deaf students. CEASD believes that adoption of their principles by postsecondary programs with deaf students would help ensure that the students would have equal access to all educational opportunities within the programs, including opportunities for developing psychosocial skills and assuming leadership positions, both in and out of the classroom. However, only sixty three (43 percent) of

Figure 3.4: Regional Distribution of Students Enrolled Full-Time at Postsecondary Programs for Students Who Are Deaf, 1972 and 1982



Federally funded programs in the northeast include NTID; in the south, Gallaudet and Delgado; in the midwest, TI; and in the west, CSUN and Seattle.

Source: B. Rawlings and S. King, "Postsecondary Educational Opportunities for Deaf Students." In A. N. Schildroth and M. A. Karchmer (eds.) *Deaf Children in America* (San Diego, Calif.: College Hill Press, 1986).

the programs listed in the *College Guide* generally comply with the CEASD principles.[11]

As for efforts to provide adequate support services, the *College Guide* shows that programs with 10 or fewer full-time deaf students provided interpreters and notetakers, but few other services. In programs with between 11 to 20 students, 28 percent offered no peer tutoring, 40 percent had no personal counselors who could communicate with the students, 62 percent had no vocational counselors who could do so, and 78 percent had no special classes (i.e., remedial classes in English and math).[12]

By contrast, all programs with 31 to 50 deaf students had paid interpreters, 80 percent had vocational counselors, and 73 percent had

personal counselors who could communicate directly with the students.[13] However, 40 percent had no special classes, 33 percent had no clinical speech and hearing services, and 20 percent had no paid notetakers.

Further evidence that some programs may not be meeting the needs of these students is indicated by an increase in students who transferred to the federally supported programs from other programs during the mid-1980's. For example, studies conducted by NTID show that the percentage of new students applying for transfer to NTID from other programs has increased from one in five applications to one in three over the past three years. Many students cited inadequate support services as one reason for transferring to NTID.[14]

Attrition rates for postsecondary settings also raise questions about the quality of the smaller programs. Conservative estimates put these dropout rates at 59 percent for deaf students pursuing certificates and diplomas, 79 percent for those studying for associate degrees, and 71 percent for baccalaureate candidates.[15] These rates exceed the national averages for hearing students pursuing associate degrees (61 percent) and baccalaureate degrees (48 percent).[16]

In the following section on regional postsecondary programs, we suggest their role be expanded in order to (1) provide a wider range of educational choices, from vocational training to adult and continuing education, and (2) strengthen the special support services provided by these regional programs and other programs in the regions. The recommendations address the lack of sufficient educational opportunities and the prevalence of inadeqate support services.

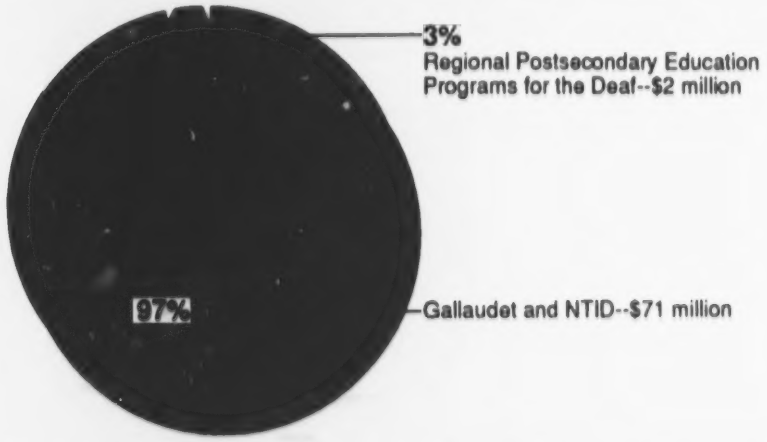
Federally Supported Regional Postsecondary Programs—A Workable Solution for Educational Opportunity

Due to the limited funding and current structure of the regional postsecondary programs, the present system does not provide a broad range of programs and appropriate support services.[17]

Under the present regional structure, none of the regional programs offers a continuum of educational programs from vocational/technical certificates to baccalaureate degrees in liberal arts and technical subjects. We received many complaints about students being denied equal opportunity and access to diverse options because of their geographical location. For example, someone living in New Mexico wanting vocational training might have to attend an affiliate school of the Tennessee Consortium, 2,000 miles away; similarly, a student from Iowa wanting to enroll in a baccalaureate program might have to attend CSUN, 1,500 miles away.

We are also concerned about the limited funding provided to the regional programs. As shown in figure 3.5, slightly more than $2 million for fiscal year 1986 was appropriated to the four RPEPDs to educate 574 students. GU and NTID were appropriated approximately $71 million to educate nearly 3,500 students and provide related services, such as research, outreach, and continuing education for consumers and professionals.

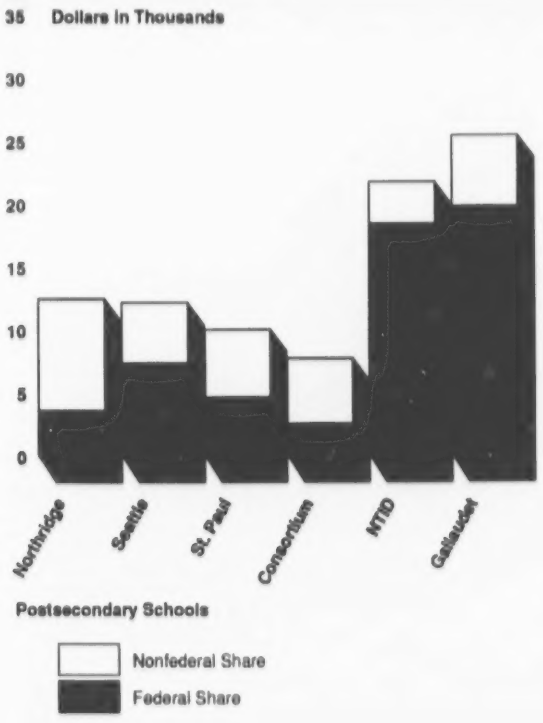
Figure 3.5: Federal Support for Postsecondary Education



Source: Department of Education, *Justifications of Appropriation Estimates for Committees on Appropriations*, Vol. 1 (Fiscal Year 1988).

The meager funding of the regional programs has two effects. First, the programs cannot serve as many students as they might, and, second, the educational services at each program are generally limited and students wishing to pursue a particular kind of curriculum may have to travel long distances to find the education they desire. We believe that increased funding for the regional programs would allow them to provide a wider range of educational choices than they can now offer. The regional programs receive a greater share of their total educational funding from state and other sources than do GU and NTID. Federal funding at these regional programs generally leverages state funding. Figure 3.6 illustrates the federal share the RPEPDs received for the 1984-85 school year.

Figure 3.6: Federal Share of Total Costs Per Deaf Student, School Year 1984-85



Source: U. S. General Accounting Office, *Deaf Education: Costs and Student Characteristics at Federally Assisted Schools* (GAO/HRD-86-BR, Feb. 14, 1986).

The director for the St. Paul TI program described consequences of the current budgetary allocations:

> "Deaf students are being denied opportunity for postsecondary education because of funding limitations. St. Paul TI has eliminated the Summer Preparatory Quarter because of funding limitations . . . St. Paul TI has reduced the number of entering students during the Fall, Winter, and Spring Quarters because of funding limitations."[18]

We believe the regional programs are generally doing an admirable job considering their limited resources. We recommend that more money go to each program for the purpose of expanding the programs to provide a full range of educational choices within their regions. If the current host institutions are unable to provide the full range of educational programs, including vocational, community college, and 4-year degree programs, they could enter into cooperative agreements with nearby institutions to do so. We believe the RPEPDs could then provide technical assistance, in-service training, program

evaluations, and record keeping and serve as resource centers to these other programs in providing a continuum of educational options. In this way, the problems associated with limited funding can be addressed through the establishment of more appropriate programming and the enrollment of more qualified students.

Such an expansion of the regional programs' role would also allow them and their affiliate colleges to provide a greater critical mass of students within the metropolitan areas served. Educators generally agree that some minimum number of students who are deaf—the critical mass concept mentioned earlier—are needed at one location to make it cost effective to provide a wide range of support services. This creates a much more useful experience for the students as well as a more cost-effective program for the regional programs. This expansion would also provide greater opportunities for students who are deaf to be integrated into the academic environment of any affiliate school. However, we do not favor a far flung grouping of schools with inadequate support services.

We believe that with enough money, these programs could also provide technical assistance to other institutions *outside* of the metropolitan area served by the regional programs, including advice and help in locating interpreters and other needed professionals. We emphasize that this recommendation does not absolve any university or college of the responsibility to provide support services to any student who is deaf, as required by section 504 of the Rehabilitation Act of 1973.

The Association on Handicapped Student Service Programs in Postsecondary Education notes that limited funding does prevent many programs from providing needed support services:

> "As enrollment increases in mainstream programs, funds providing support services are being stretched beyond individual program capabilities. Sufficient financial and personnel resources are not currently available to meet the demand . . . the quality of these support services varies significantly between programs. I encourage this Commission to address the needs of postsecondary programs which are now struggling to meet this increased demand but without increases in personnel and/or funds."[19]

We recognize the major accomplishment of section 504 of the Rehabilitation Act of 1973. But we underscore the need of participating colleges and universities to try harder to comply with its requirements in serving students who are deaf. With technical assistance from the RPEPDs this goal is more likely to be achieved.

The southwestern section of the country does not have a regional program.

Figure 3.7 illustrates the current concentration of the RPEPDs. There is an uneven concentration of the RPEPDs on both coasts, despite the increased enrollments in the midwest, south, and west. We recommend that an additional RPEPD be established in the southwest portion of the country, and that the Department of Education, in implementing this recommendation, add criteria for the regional programs to serve the northeastern, southern, midwestern, southwestern, and western sections of the United States. This recommendation includes the stipulation that any institution applying for RPEPD status should be considered only if it provided evidence that there is a sufficient populace in its region.

Our recommendation to establish an additional regional program in the southwest has been supported by rehabilitation and education agencies and schools in Arizona, New Mexico, Oklahoma, and Texas. The Deputy Director of the New Mexico Division of Vocational Rehabilitation said:

> "There is an interpreter shortage all over the state and the programs are seemingly fragile due to this shortage. Many of these prevocationally deaf students have chosen to be near their home base instead of attending a program with good support services because of the distance and family concerns. An RPEPD in the southwestern region in the U.S. would expand these students' options should they need consistent support services."[20]

The RPEPDs are required by their host institutions to charge out-of-state tuition to students who do not reside in the states where the regional programs are located.

Several programs reported that reductions in rehabilitation monies limited many Vocational Rehabilitation agencies to paying only in-state tuition for a deaf student's college education. The RPEPDs are federally funded programs and should be equally available to students who are deaf throughout the region served. For this reason, we recommend that a waiver of out-of-state tuition charges be required of RPEPD grant recipients. Many respondents agreed with this draft recommendation.

For example, the director of CSUN's RPEPD supported the tuition waiver and indicated that "preliminary inquiries have already been made concerning the possibility of obtaining a waiver of out-of-state fees for all hearing impaired students from states outside of California."[21]

The current 3-year funding cycle has been detrimental to the growth and quality of the RPEPDs.

Figure 3.7: Location of Schools (GU, NTID, and 4 RPEPDs)

GU — Gallaudet University

NTID — National Technical Institute for Deaf

UT — University of Tennessee Consortium

TI — St. Paul Technical Institute

SCC — Seattle Community College

CSUN — California State University of Northridge

Source: U.S. General Accounting Office, *Deaf Education: Costs and Student Characteristics at Federally Assisted Schools* (GAO/HRD-86-64BR, Feb. 1986).

The regional programs assert that the current 3-year funding cycle diverts time and effort from the provision of quality services in order to prepare progress reports. The cycle also affects the quality of these

programs in a number of ways: it does not allow for long-range planning; it fails to assure personnel of long-term employment, thereby promoting low employee morale; it cannot guarantee that a program will still exist when the student is ready to graduate; and it does not allow for continuity of programming from year to year. These multiple uncertainties affect administrators, faculty, staff, and especially students.

We received numerous comments about the problems inherent in the current 3-year funding cycle. For example, the director of the St. Paul TI program noted that:

> "Open competition wreaks havoc with the delivery system in terms of assurances for students of continuous support for the duration of their training programs. Staff is adversely affected by job insecurity which includes a history of staff receiving formal lay-off notices pending the outcome of the Open Competition process."[22]

We agree that these comments illustrate a legitimate concern, but feel that some competition in the funding cycle should be preserved so that an ineffective regional program would not be funded indefinitely. We recommend changing from a 3-year to a 5-year funding cycle while maintaining the process of open competition for selection of the RPEPDs.

In conclusion, we find that, because the quality and kind of educational programs available to students varies considerably from one region of the country to another—and quality programs require a critical mass of students—the regional programs should be strengthened to reflect a wider range of educational choices throughout the nation. This is the best way to achieve our goal since it is unlikely that most programs seeking to comply with section 504 have the fiscal support needed to provide complete support services.

Recommendation 17

The Congress should increase funding to strengthen each Regional Postsecondary Education Program for the Deaf by providing a broader range of educational options, including vocational and technical training, 2-year junior college, and baccalaureate programs. The number of Regional Postsecondary Education Programs for the Deaf should be increased to five. The additional program should be established in the southwest region of the United States to provide greater geographical coverage of the nation.

We recommend the following criteria for selecting and expanding the role of the Regional Postsecondary Education Programs for the Deaf:

1. Involvement and training of persons who are deaf as administrators, program planners, and instructors.

2. Employment of qualified personnel who are able to communicate in the client's native language and mode of communication.

3. Provision of adequate support services, including interpreters, notetakers, and tutors.

4. Provision of long-term outreach to communities and schools serving persons who are deaf.

5. Design of programs to meet the unique needs of students who are deaf.

6. Provision of in-service training on deafness to education providers.

7. Implementation of a general policy to ensure greater accessibility for all students who are deaf, including a waiver of increased tuition charges for out-of-state students.

8. Selection of the RPEPDs based on the geographical distribution of the potential student population.

Recommendation 18

A 5-year competitive funding cycle should be established for the Regional Postsecondary Education Programs for the Deaf.

Adult and Continuing Education—Needed, but Unavailable

Enrollment figures can be expected to rise in adult and continuing education programs for persons who are deaf with the aging of the rubella bulge and baby boom populations.

Numerous studies reveal that the prevalence of deafness increases with age. The 1972 census of the deaf population showed a prevalence rate of 370 hearing impaired persons for every 100,000 of the 16- to 54-year-old population. The rate jumped to 1,273 per 100,000 for persons 55 years of age or older.[23] The over 55 population will increase later by 6,000-8,000 as the rubella bulge population ages.

The increasing complexity of the economy, evidenced in the shift of jobs from manufacturing to service and information-related jobs, coupled with an increase in the number of deaf persons who hold managerial and technical positions, will influence planning for adult and continuing education programs.

Many of the jobs created by this shift will require workers with a high level of literacy and an ability to assume leadership positions. Deaf

adults, who have an above-average level of illiteracy, will need access to programs that provide appropriate remediation course work to improve their literacy levels, and access to continuing leadership and technical training programs to enhance their professional skills and thereby achieve greater upward mobility.

Earnings rise with increasing levels of educational attainment. For example, a national study of 1,928 deaf students who graduated or withdrew from NTID between 1968 and 1980 revealed that salaries increased with degree level.[24] Persons holding associate degrees earned 43 percent more than students who did not graduate with a degree. Those with baccalaureate degrees earned an average of 83 percent more than those students who withdrew.[25]

The director of the Seattle Community College RPEPD asserted that:

> "Continuing education for deaf people and those who seek their services as employees is, in my opinion, the only way to address the limited upward mobility opportunities for our deaf citizens."[26]

The American Annals of the Deaf (April 1987) lists 41 institutions of higher education offering continuing education programs specifically designed for deaf adults. In 1972, GU began services to adults who are deaf with the establishment of a College for Continuing Education (CCE). Today the CCE includes Programs in Adult and Continuing Education, which provides courses and other learning opportunities for deaf adults. The CCE also shares ideas, resources, and technical assistance with professionals throughout the United States. During the academic year 1985-86, the CCE provided service to nearly 35,300 adults at its Washington, D.C. campus and through its regional centers in California, Florida, Kansas, Massachusetts, and Texas.[27]

Despite efforts of GU and other institutions to provide adult and continuing education programs, we received numerous comments that many adults who are deaf do not participate in adult education courses. This is because, when they do, the adult education providers often fail to supply the support services that allow them to participate fully. Therefore, we recommend that the role of the federally supported regional programs be expanded to include provision of adult and continuing education programs.

The director of CSUN's RPEPD endorsed the recommendation and further indicated that:

> "CSUN is well known for its pioneering efforts to provide adult education programs for deaf persons. Its efforts go back to 1963

> with a pilot program of 6 weeks for an average of 150 deaf adults each week . . . Loss of funding eliminated the position of liaison person creating a vacuum in leadership . . . [for the adult education programs]. Today there is a desperate need to resurrect adult and continuing education programs for deaf persons."[28]

Several respondents to our draft recommendation expressed concern that such programs would not reach areas outside of the metropolitan centers the RPEPDs served:

> "I think that the emphasis of . . . [the Commission's recommendation] should be changed. Adult and continuing education programs at the RPEPDs would not be of benefit to people living and working outside of the . . . RPEPD metropolitan areas. The emphasis consequently should be on making existing ABE programs everywhere accessible to deaf persons, with the RPEPDs perhaps providing models and support for this endeavor."[29]

Our recommendation addresses this concern by stipulating that the RPEPDs should not only provide direct adult and continuing education services, but also establish agreements with community colleges, rehabilitation agencies, center schools, day programs, and other human service agencies to provide technical assistance and staff development and, in general, serve as a resource center for other institutions that provide adult and continuing education programs. In this way, the RPEPDs could become truly *regional* programs.

Recommendation 19

The Congress should authorize funds for each Regional Postsecondary Education Program for the Deaf to provide adult and continuing education programs within their respective regions and to assist other local educational institutions in providing such programs to adults who are deaf.

The Department of Education should establish the following criteria for the selection of the Regional Postsecondary Education Programs in providing such adult education programming:

1. Involvement and training of persons who are deaf as administrators, program planners, and instructors.

2. Provision of adequate support services, including interpreters, notetakers, and tutors.

3. Provision of long-term outreach and promotion to communities and schools serving persons who are deaf.

4. Design of programs to meet the unique needs of adults who are deaf.

5. Provision of in-service training on deafness to adult education providers.

Inadequate Rehabilitation Training—A Growing Problem

The vast majority of postsecondary-aged deaf persons are unemployed or seriously underemployed because appropriate rehabilitation training and related services are not available.

Over 60 percent of all deaf high school students who graduate or drop out are not able to benefit from postsecondary education. Moreover, an estimated 100,000 deaf people of all ages are unemployed or seriously underemployed due to additional handicapping conditions, such as deficiencies in language performance, and related psychological, vocational, and social underdevelopment.[30] This population of "lower functioning adults" increases every year by the approximately 2,000 deaf students who leave high school and challenges the educational system. The existence of this population and the fact that current systems seem unable to adequately serve it led us to publish a draft recommendation to establish one comprehensive rehabilitation center in each federal region.

There are no large federally funded comprehensive rehabilitation centers to serve the needs of lower functioning deaf adults.

During the 1970's, the Rehabilitation Services Administration (RSA) partially funded large rehabilitation centers in Arizona, Arkansas, California, Delaware, Florida, Hawaii, Indiana, Maryland, Minnesota, New York, South Carolina, Texas, Utah, and Washington. Six centers provided a wide range of services, including vocational and psychological evaluation, personal and career counseling, independent living skills, medical and audiological services, vocational training, job seeking skills, job placement and follow-up, community outreach, professional development, and applied research.

RSA has not funded any large comprehensive rehabilitation center for this population in recent years. RSA's expectation that the states would continue the programs without federal support was erroneous. Today, only a few local and regional programs operate with some federal, state, and private monies in Arizona, California, Florida, Minnesota, North Carolina, Oklahoma, Pennsylvania, Texas, Washington, and Wisconsin. Each program serves from 6 to 200 severely disabled deaf clients for an estimated 700 clients nationwide.[31]

Under the current system, state rehabilitation agencies must provide time-limited services and, consequently, they cannot always deliver comprehensive rehabilitation services to a population whose rehabilitation needs are long-term and intensive.

To quote one rehabilitation professional:

> "Working with these clients demands very skilled staff and often the fees that VR [vocational rehabilitation] agencies are willing to pay will not cover the cost of the multiple services needed by these people . . . If programs to serve low-functioning deaf persons were more readily available then this would remove an undue burden on other special programs, such as community colleges and vocational-technical schools."[32]

Training in vocational and independent living skills for this population is costly and takes longer than other forms of assistance. Therefore, large comprehensive service centers are unlikely to be funded at the local or state level. Besides, the number of clients in some localities (or small state) would be inadequate to justify the kind of facility and specialized staff needed. Thus, the regional center approach may be the only workable alternative. Moreover, with federal student aid unavailable to this group and limited Vocational Rehabilitation funding of needed services, it is unlikely that the market place would respond with the needed facilities unless per capita rehabilitation investments were much higher than at present.

Another important impetus for public investment is that this population has a history of obtaining gainful employment and achieving self sufficiency *if* appropriate comprehensive services are provided. The federally supported programs in Arkansas, Indiana, and elsewhere, which were in operation during the 1960's and 1970's, reported a 60-70-percent employment rate for the deaf clients who completed their training programs.

The director of the Southwest Center for the Hearing Impaired cites several added services that could be provided if enough federal funding were available:

> "Were it not for the benevolency of the Methodist Mission Home [Southwest Center for the Hearing Impaired] program would have become a white cross as did the other programs funded with the same federal monies in the early 1970's. With additional funding, staff client ratios could be improved, more timely intervention provided, more thorough outreach and more intensive follow-up services could be provided. As it stands now, about 50 percent of persons referred cannot engage in successful employment or independent living due to a need for these services beyond the scope and resources of the Center."[33]

Many deaf students enroll in college because it is their only option—then fail.

We also received numerous comments from college and university program administrators who testified from first-hand experience of

deaf persons who had been inappropriately placed in their programs because there was nowhere else to enroll them even though the probability that they could succeed in college was extremely low.

The Department of Education opposed our draft recommendation, and stated:

> "It is obvious that there would be extensive duplication of existing efforts already in place not only at the state but also at the local levels. It is the Department's opinion that existing community-based services could be strengthened with local and private resources so that those individuals who are deaf can be more appropriately served."[34]

We are convinced that our recommendation does not duplicate existing efforts, because no federal grants currently fund comprehensive services; in fact, the level of Vocational Rehabilitation funding severely limits services that can be provided by local Vocational Rehabilitation programs.

Our recommendation is aimed at rewriting the long history of inadequate funding and inappropriate programming for thousands of deaf individuals across the country who do not qualify for formal postsecondary education. We recommend that providing comprehensive service programs for this under-served population become the top priority for future initiatives undertaken by RSA in the area of deafness. The members of such a well-served population would return the investment manyfold as they experience long-term success in gainful employment and greater self-sufficiency.

Recommendation 20

The Congress should establish one comprehensive service center in each of the ten federal regions of the United States. These centers may be located in existing facilities or may be stand-alone units. The Commission further recommends that the comprehensive service centers be funded through a competitive bid process.

To be eligible for federal funds, applicants would have to satisfy the following criteria:

1. Provide comprehensive services, such as initial evaluation and diagnosis, general education, counseling and guidance, vocational training, work transition, supported employment, job placement and follow-up, and community outreach.

2. Employ qualified personnel who are able to communicate in the client's native language and mode of communication.

3. Disseminate training techniques, instructional materials, results of program evaluations, and public information.

4. Delineate a method for utilizing existing community resources in providing such comprehensive services.

Evaluation and Oversight of Federally Supported Postsecondary Education

Although the Department of Education generally oversees financial and budgetary matters at GU, NTID, and the RPEPDs, these institutions have not been subject to periodic program evaluation or adequate program oversight.

We believe a comprehensive program evaluation of the federally supported programs is essential for effective program management. A 1986 General Accounting Office (GAO) report on GU and NTID noted that the Department of Education generally restricts its oversight to financial and budgetary matters, and that the only independent monitoring of operations was conducted by the Congress itself. Otherwise, the Department has not conducted any comprehensive program evaluation of GU, NTID, and the RPEPDs. As a consequence, the Education of the Deaf Act (EDA) of 1986 includes a provision requiring the Department to monitor and evaluate the educational programs and activities as well as the administrative operations of GU and NTID. The RPEPDs are authorized under the Education of the Handicapped Act, not the EDA, so were not included in this evaluation requirement.

Liaison Office

The liaison officer and the advisory boards of the six federally supported institutions do not provide evaluative or direct information to the federal government regarding the programs or fulfillment of their missions.

In addition to the section in EDA requiring the Department of Education to monitor and evaluate the federal programs, there is also a requirement directing the Department to designate an individual as liaison for GU and NTID. The liaison officer has two primary duties: (1) to provide information to the programs regarding the Department's efforts directly affecting their operation; (2) to offer such support and assistance as the programs request or as the Secretary of Education considers appropriate.

The original Senate bill for EDA contained language detailing the duties of the liaison officer as follows: coordinate the activities of GU, NTID, and the RPEPDs to ensure the provision of quality education of deaf individuals and avoid unnecessary duplication; review and comment on plans and other materials submitted by GU and NTID relating to research and demonstration activities, technical assistance,

and the development of instructional materials; and assist in the preparation of budget requests.

We suggest that the term "liaison officer" be changed to "liaison office" and that the office undertake the additional responsibilities described in the original Senate bill, including the coordination of program evaluations at the federally funded programs. The persons selected to coordinate these duties should be acknowledged experts in the field of deafness.

It is our intent that the liaison office not be involved in the management, policymaking process, or governance of these programs.

Recommendation 21

The Congress should amend the Education of the Handicapped Act and the Education of the Deaf Act to direct the Department of Education's liaison office to: (1) coordinate the activities of Gallaudet University, the National Technical Institute for the Deaf, and the Regional Postsecondary Education Programs for the Deaf to ensure the quality of the programs and to avoid unnecessary duplication; (2) review and comment on workplans relating to research, demonstration and evaluation activities, technical assistance, and development of instructional materials; and (3) assist in the preparation of budget requests.

Program Evaluation

To provide greater programmatic oversight and evaluation of the federally funded postsecondary education programs, including the comprehensive service centers described previously, and in view of our recommendations for an expanded role for the regional programs, we propose that the liaison office coordinate the administration of program evaluations at GU, NTID, the regional programs, and the comprehensive service centers. The evaluation of the comprehensive service centers would be coordinated by RSA. The program evaluation process described in chapter 2 of this report for KDES and MSSD would be included among these evaluations.

The liaison office should contract with acknowledged experts in the fields of deafness, program evaluation, education, and rehabilitation to carry out such program reviews.

The Department of Education agrees with the our recommendation:

> "The Department of Education concurs with this recommendation. Section 405 of the Education of the Deaf Act provides general authority for the Department to conduct this type of activity. The Department is considering the appointment of a group of independent and highly qualified professional consultants this year to

develop guidelines for such an evaluation. The Department interprets our evaluation authority as inclusive of GU's precollege programs."[35]

The Director for the Tennessee Consortium expressed the following concern for the program review process:

> "It is imperative that a turnover in a regional program be an exception rather than the rule . . . The evaluation or accreditation process . . . [an alternative suggestion of the Tennessee Consortium] can provide the safeguard needed for an oversight and can do so with more far reaching pay-offs and harmony than by going through the competitive bidding process. The *bids are proposals*—the *evaluations are results*."[36]

Recommendation 22

The Department of Education should conduct program evaluations at Gallaudet University, the National Technical Institute for the Deaf, the Regional Postsecondary Education Programs for the Deaf, and the proposed comprehensive service centers on a 5-year cycle, and submit a report of its evaluation with recommendations, including specific proposals for legislation, as it deems advisable, to the authorizing committees of the Congress. The evaluation team should consist of outside experts in the field of deafness, program evaluation, education, and rehabilitation, including persons who are deaf.

It is our intent that the evaluation for the RPEPDs be conducted during their third year of funding and that the results be provided to the Department of Education during the fourth year to assist the Department in selecting the highest quality programs for the next funding cycle. For GU and NTID, the evaluation should coincide with the 5-year funding cycle of these institutions and the report should be available for congressional oversight hearings before reauthorization.

Gallaudet University and the National Technical Institute for the Deaf—Admission Policies, Hiring, and Governing Boards

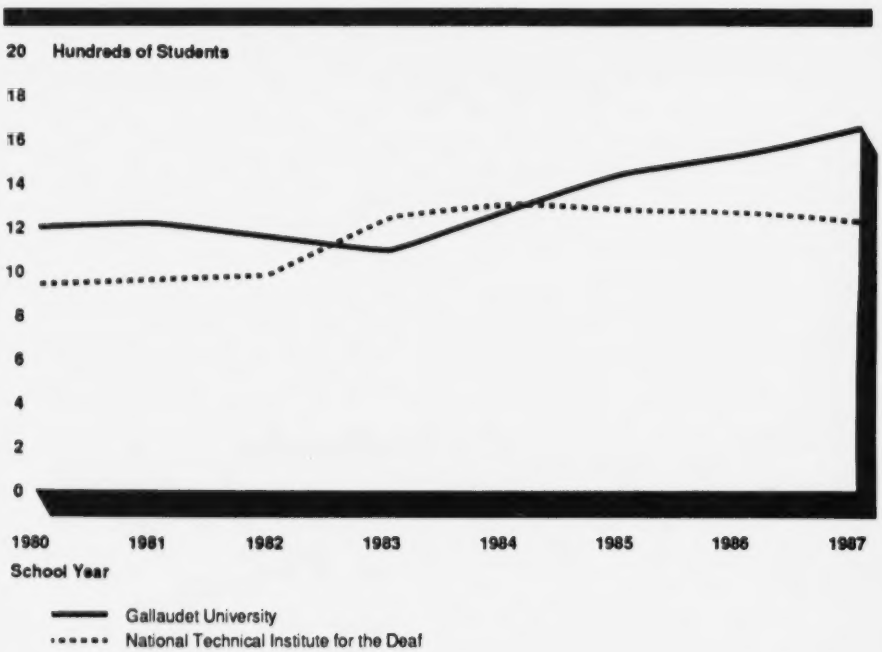
Declining Enrollments and Efforts to Increase Them

NTID has experienced declining enrollments due to the passage of the rubella bulge population, the general nationwide decline in secondary school-age students, and the increased number of other postsecondary educational options for students who are deaf.

Figure 3.8 illustrates enrollments for NTID and GU from 1980 to 1987. GU experienced a brief enrollment decline in 1982 and 1983, but since that time enrollments have steadily increased. Officials state

that such increases are largely due to improved recruitment and retention efforts.

Figure 3.8: Undergraduate Enrollment at Gallaudet University and the National Technical Institute for the Deaf, 1980-87



For Gallaudet University, enrollment includes an estimated 30 associate degree students per year, all of whom are hearing.

Source: Gallaudet University and the National Technical Institute for the Deaf (Jan. 1988).

Admission of Foreign Students

To increase enrollments, GU and NTID have undertaken or proposed a variety of measures including the admission of foreign deaf students at NTID and hearing students at GU. NTID officials believe that in 1990, for optimal efficiency, they will need 75 to 100 more students than are expected to enroll.[37] However, GU officials expect to achieve enrollment capacity in 1990 and therefore do not anticipate a need for additional students.[38]

NTID proposes that the current policy barring admission of deaf foreign students be changed. Gallaudet has admitted foreign students who are deaf since the early 1880's and presently has 218. Prior to

fall, 1983, GU did not impose a tuition surcharge for foreign students. From 1983 until fall, 1987, GU charged foreign students tuition rates 50 percent higher than tuition charged for American students. In 1987, this surcharge was reduced to 20 percent.

In 1986-87, the total per student cost of educating foreign students at GU was $19,300 (instructional costs plus room and board). The total federal subsidy for these students was nearly $2,400,000.[39]

The Commission recognizes that the presence of foreign students who are deaf at GU has been desirable from a variety of perspectives. However, we strongly believe that federal subsidies for these foreign students should cease, particularly in light of the serious lack of funding and programming available for an estimated 100,000 American deaf individuals across the country who are not receiving services appropriate to their needs.[40]

We published a draft recommendation that a tuition surcharge of 75 percent of the per student operating cost be assessed at the two institutions. This surcharge would cover the full per student educational cost, after subtracting research and public service costs, which are not directly related to the cost of educating a student, from the total cost. We also recommended that foreign student enrollment be limited to 10 percent of the student body at both institutions.

Both GU and NTID opposed our draft recommendation.

GU responded:

> "In light of the serious harm which would come to deaf people from its implementation, we express grave reservations about this recommendation . . . Establishing the very high tuition rates suggested by the Commission would be tantamount to closing our doors to these students."[41]

And NTID stated:

> "Your recommendation would prevent us from having more than 125 foreign students on our campus at any one time. If the number of US students attending NTID were to drop below 1,125, we would have fewer than our optimum and most cost efficient level of 1,250."[42]

NTID added that if this recommendation were adopted, tuition rates for foreign students who are deaf should be on par with GU's, as they are for American students who are deaf. (NTID and GU are required to charge equivalent tuition so that no deaf person will choose one

program over another for reasons of cost.) NTID developed a variety of cost reimbursement proposals for tuition and other expenses for foreign students, all of which would result in a continued subsidy to foreign students. For example, NTID proposed the use of a marginal cost formula, which would result in foreign students paying an amount equal to the increase in funding associated with the rubella-induced increase in federal appropriations. The effect of this would be a tuition of $8,320 for foreign deaf students, when the total cost of operating these institutions is about $24,550 per student. However, a portion of this total cost goes to research and other services not directly attributable to student education. Both institutions estimate their cost to educate their students (minus costs for research and public service activities) would average about $18,250 per student. We conclude that 75 percent of the total cost ($24,550) would more than eliminate any federal subsidy for foreign deaf students.[43]

Despite the objections of GU and NTID, we still recommend that federal funds not be used to educate foreign students who are deaf at these institutions.

Recommendation 23

The National Technical Institute for the Deaf should be permitted to admit foreign students who are deaf. However, the number of deaf foreign students should be limited to 10 percent of the student body at Gallaudet University and the National Technical Institute for the Deaf. Tuition should be increased to foreign students to cover 75 percent of the average per student costs at these two institutions.[44]

Admission of Hearing Students to GU

Since 1985, GU has allowed up to 8 percent of the baccalaureate population to be hearing students.

Gallaudet has admitted hearing students to its graduate programs since before the turn of the century. More recently, GU has admitted hearing students to the associate degree program in interpreting. In 1985, the GU Board of Trustees decided to permit hearing students to enter the baccalaureate programs, but placed an 8 percent cap on the number admitted. Hearing students are charged the same tuition and fees as deaf students.

We note that there are myriad opportunities for undergraduate and graduate hearing students to pursue careers in deafness through GU's exchange and consortium programs with other area universities and colleges, as well as through its interpreter training program. The federal government should not be funding the education of baccalaureate hearing students at an institution for the deaf. Because it is unlikely that many hearing students would pay between $16,000 to

$20,000, a policy that would regain the full tuition cost seems impractical. The increase in GU's enrollments, due to recent recruitment and retention efforts, also do not support this policy.

GU defended its policy:

> "We appreciate the fact that the admission of hearing students was a change in tradition. However, there is a need to increase the supply of people, deaf and hearing, whose postsecondary background will enable them to serve deaf people and the field of deafness in a professional, competent manner . . . The total number of hearing students . . . is very small and is closely controlled and monitored. Furthermore, hearing students are not taking the places of deaf students . . . The hearing students are served incrementally to the extent resources allow."[45]

Nevertheless, we recommend that the policy of admitting hearing students to GU's baccalaureate programs be discontinued. We believe that GU should maintain its original mission—to be the world's premier liberal arts college for students who are deaf. With this recommendation we request that the Congress reaffirm GU as an institution exclusively for students who are deaf at the baccalaureate level.

Recommendation 24

The Congress should deny Gallaudet University the latitude to accept hearing students to its baccalaureate programs.

Employment of Persons Who Are Deaf at GU, NTID, and the RPEPDs

Regarding the current level of employment of persons who are deaf at GU and NTID, the question arose: Are these institutions trying hard enough to locate and hire deaf applicants?

GU officials reported that, overall, 25 percent of GU's employees are deaf. For individual employment categories, the specific percentages are:

- executive positions—18 percent,
- faculty positions—34 percent,
- professional staff—33 percent,
- technical staff—38 percent, and
- secretarial positions—7 percent.

NTID officials said that 12 percent of their employees are deaf persons. For individual employment categories, the percentages are:

- executive positions—12 percent,
- faculty positions—12 percent,
- professional staff—15 percent,
- technical staff—20 percent, and

- secretarial positions—6 percent.

CSUN reported that deaf employees constituted nearly 27 percent, while St. Paul TI reported 29 percent, and the University of Tennessee Consortium a 15 percent rate.[46]

In comparison, Howard University, serving primarily black students in Washington, D.C., reported that 87 percent of its employees are black. For individual employment categories, the percentages are:

- administrative positions—91 percent,
- faculty positions—77 percent, and
- staff positions—89 percent.

Wellesley College, a women's college, reported that 74 percent of its employees are women. For individual employment categories, the percentages are:

- administrative positions—50 percent,
- faculty positions—83 percent, and
- staff positions—91 percent.

We recognize that the pool of deaf applicants for positions in educational settings is not as extensive as the pool of female and black applicants for similar settings; however, we believe that any educational program primarily serving persons who are deaf, particularly GU, NTID, and the four RPEPDs, must be strongly encouraged to take aggressive steps to recruit, hire, and promote qualified deaf people. We acknowledge the positive efforts already made by GU and NTID, but recommend further affirmative action be taken to employ and advance persons who are deaf and who, of course, are qualified.

One way to increase the number of qualified applicants would be to aggressively recruit qualified deaf persons for graduate study in their or other programs. Over a period of time, the graduates would become potential candidates for senior staff positions. That long-range plans to expand the graduate pool of qualified persons who are deaf have not been given high priority at these institutions in the past is inexplicable; in the future, it will be inexcusable.

In response to our draft recommendation, GU responded that:

> "The relatively low participation of deaf individuals in the pool of qualified applicants vis-a-vis that of Howard and Wellesley *is* a major factor to consider. Overall, Gallaudet's pool of qualified deaf applicants is roughly 10 percent of the total pool from year-to-year; and yet the University has increased its level of deaf employment over

> the years to the point where one out of every four employees is deaf (emphasis in the original)."[47]

NTID fully supports the recommendation and stated that they "intend to continue their vigorous affirmative action program on behalf of deaf and other protected classes."

The director of CSUN's RPEPD pointed out:

> "One cannot argue with this recommendation. The Commission is to be congratulated on taking this position! At [the National Center on Deafness] the director is himself deaf. Three of the five top administrators are deaf. Three of the four counselors are deaf."[48]

Recommendation 25

Gallaudet University, the National Technical Institute for the Deaf, and the Regional Postsecondary Education Programs for the Deaf should continue to strengthen the positive efforts they have already made in recruiting, hiring, and promoting qualified applicants and employees who are deaf.

Representation of Persons Who Are Deaf on Governing and Advisory Boards

Gallaudet's Board of Trustees has 19 members—4 are deaf, NTID's National Advisory Group has 16 members—5 are deaf. In comparison, 50 percent of Wellesley's Board of Trustees are women.[49] We are convinced that there are many deaf individuals who are qualified to participate in the governing bodies of these institutions and we believe that these programs serving a special population should have a majority of members of that population guiding their policy-making decisions.

Both GU and NTID oppose the recommendation. GU's response reflects the reasoning for both institutions:

> "As Gallaudet is a multi-purpose university, its Board of Trustees has evolved over the years in membership to reflect the various needs and interests common to a university setting . . . Current board members, both hearing and deaf, represent legal, public relations, business, technology, education, rehabilitation, and other sectors of society . . . An individual's hearing status is only one factor among many in determining his or her ability to further the University's mission . . . As vacancies occur, the board perpetuates itself by seeking to continue in this tradition by selecting outstanding individuals whose talents in their fields of interest will contribute greatly to the University."[50]

We believe that deaf, deafened, and hard-of-hearing persons capable of fulfilling all of the roles and functions cited by GU are available for recruitment, and that GU's and NTID's need for a variety of

experts among its board members can be satisfied if this recommendation is adopted. Furthermore, we believe adoption of this recommendation would set a positive example for other institutions providing educational programs to students who are deaf. Finally, 67 percent of our members are deaf or hard-of-hearing, including the Chairperson. Similarly, both of our top staff positions are filled by persons who are deaf.

Recommendation 26

The Congress should amend the Education of the Deaf Act to require that a majority of the members of the governing and advisory bodies of Gallaudet University, the National Technical Institute for the Deaf, and the Regional Postsecondary Education Programs for the Deaf be persons who are deaf.

[1]29 U.S.C. 794. See 34 C.F.R. 104.44(d)(1987).

[2]B. Rawlings, M. Karchmer, and J. DeCaro, "Postsecondary Programs for Deaf Students at the Peak of the 'Rubella Bulge'," *American Annals of the Deaf*, Vol. 132 (Mar. 1987), pp. 36-42.

[3]R. Trybus, M. Karchmer, P. Kerstetter, and W. Hicks, "The Demographics of Deafness Resulting from Maternal Rubella," *American Annals of the Deaf*, Vol. 125 (1980), pp. 977-84. Cited in B. Rawlings, M. Karchmer, and J. DeCaro (1987).

[4]Rawlings, "Postsecondary Programs."

[5]Rawlings, "Postsecondary Programs."

[6]Rawlings, "Postsecondary Programs."

[7]Rawlings, "Postsecondary Programs."

[8]Rawlings, "Postsecondary Programs."

[9]Rawlings, "Postsecondary Programs."

[10]B. Rawlings and S. King, "Postsecondary Educational Opportunities for Deaf Students." In A. N. Schildroth and M. A. Karchmer (eds.), *Deaf Children in America* (San Diego, Calif.: College Hill Press, 1986), pp. 231-257.

[11]Rawlings, "Postsecondary Programs."

[12]Rawlings, "Postsecondary Programs."

[13]Rawlings, "Postsecondary Programs."

[14]National Technical Institute for the Deaf, Statement (Mar. 17, 1987).

[15]G. Walter, S. Foster, and L. Elliott, "Attrition and Accommodation of Hearing-Impaired College Students in the U.S." Paper presented at the Tenth National Conference of the Association on Handicapped Student Service Programs in Postsecondary Education (July 23, 1987). These percentages assume that the rubella epidemic caused a 20-percent increase in student enrollment figures.

[16]G. Walter, "Attrition."

[17]California State University at Northridge, Seattle Community College, St. Paul Technical Institute, and the University of Tennessee Consortium are the four centers participating in the RPEPDs. The Department of Education currently awards 3-year grants based on four geographical locations. The amount of funding fluctuates from year to year and grant to grant.

[18]St. Paul Technical Institute, NODR1 #193 (Oct. 15, 1987).

[19]Association on Handicapped Student Service Programs in Postsecondary Education, Statement (July 1, 1987).

[20]New Mexico Division of Vocational Rehabilitation, NODR1 #211 (Oct. 8, 1987).

[21]California State University at Northridge, Letter (Dec. 15, 1987).

[22]St. Paul Technical Institute, NODR1 #193 (Oct. 15, 1987).

[23]J. Schein, "Deaf Population: Demography." In J. V. Van Cleve (ed.), *Gallaudet Encyclopedia of Deaf Persons and Deafness* (New York: McGraw-Hill, Inc., 1987).

[24]G. Walter, *Outcomes of Increased Access to Postsecondary Education by Deaf Persons*. Unpublished manuscript of the National Technical Institute for the Deaf (May 1987).

[25]Walter, *Outcomes*, p. 12.

[26]Seattle Community College, Statement (Mar. 18, 1987).

[27]Gallaudet University, NOI #275, (June 11, 1987). Thirty-five percent of these people were deaf adults; others were professionals, families, and community service providers.

[28]California State University at Northridge, Letter (Dec. 15, 1987).

[29]Wayne State University, NODR2 #34, (Nov. 11, 1987).

[30]University of Arkansas Research and Training Center on Deafness and Hearing Impairment, *Comprehensive Regional Rehabilitation Centers for Low (Under) Achieving Deaf People* (1971).

[31]The amount of federal funding spent on rehabilitating these clients is difficult to pinpoint because data on cost per client are not available by disability category. The mean cost for all clients was $1,606 for FY 1984. Therefore, the mean cost ($1,606) multiplied by the number of deaf clients (700) results in an estimated expenditure of $1,124,200.

[32]D. Myers, Statement (Aug. 3, 1987).

[33]Southwest Center for the Hearing Impaired, Letter (Aug. 27, 1987).

[34]Department of Education, NODR2 #201 (Dec. 30, 1987).

[35]Department of Education, NODR2 #201 (Dec. 30, 1987).

[36]University of Tennessee Consortium, NODR1 #200 (Oct. 21, 1987).

[37]National Technical Institute for the Deaf, Telephone conversation (Jan. 13, 1988).

[38]Gallaudet University, Telephone conversation (Jan. 15, 1988).

[39]This figure was obtained by multiplying the estimated per student cost not paid as tuition (minus 25 percent in non-federal support) times the number of foreign deaf students attending GU during the 1986-87 school year ($10,975/student X 218 students).

[40]This population was previously described under the *Inadequate Rehabilitation Training* section.

[41]Gallaudet University, NODR1 #216 (Oct. 14, 1987).

[42]National Technical Institute for the Deaf, NODR1 #237 (Nov. 19, 1987).

[43]This amount is approximately $18,400 ($24,550/student X .75).

[44]Congress has already addressed one part of our recommendation. It recently passed the Departments of Labor, Health and Human Services, and Education and Related Agencies Appropriations Act of 1988, title III, which will prohibit NTID from using federal funds to subsidize the tuition of foreign students, 100th Congress, 1st Session, Vol. 133, *Congressional Record*, p. H12712 (Dec. 21, 1987).

[45]Gallaudet University, NODR1 #216 (Oct. 14, 1987).

[46]Seattle Community College did not respond to the Commission's request for information.

[47]Gallaudet University, NODR2 #26 (Nov. 12, 1987).

[48]California State University at Northridge, Letter (Dec. 15, 1987).

[49]Howard University declined to provide information regarding the composition of its Board of Trustees.

[50]Gallaudet University, NODR2 #26 (Nov. 12, 1987).

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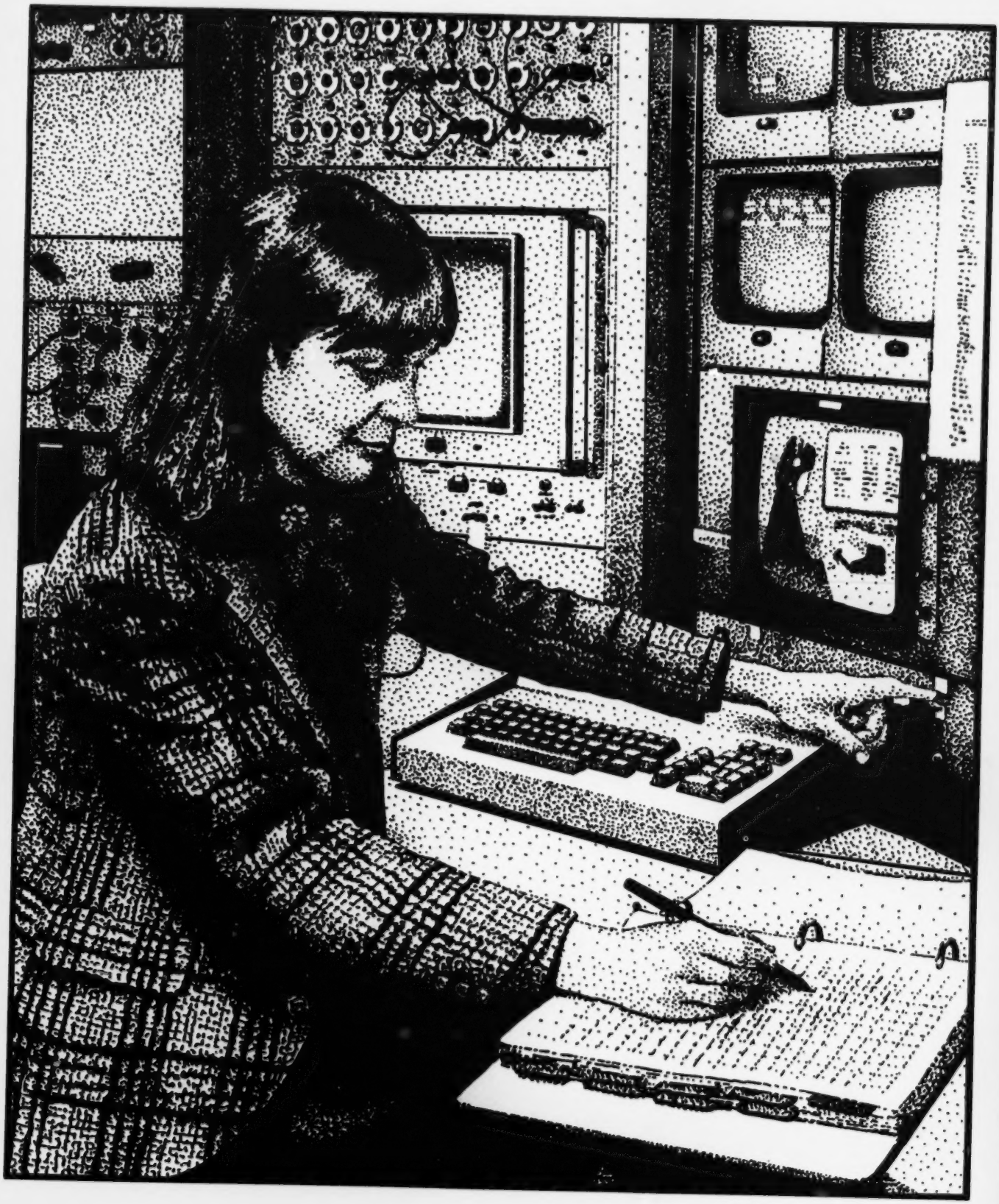


Research, Evaluation, and Outreach

Summary

Gallaudet University (GU), in addition to its on-campus educational activities, has a national mission. GU's charge, through its Pre-College Programs, is to conduct research, develop educational materials and techniques, and disseminate the resulting products with a view to improving other educational programs for the deaf all across the country.

The Congress asked the General Accounting Office (GAO) to survey the Pre-College Programs—not to judge their quality—but rather to report what activities are carried out, how research projects are monitored and evaluated, how costs are accounted for, how well research results are disseminated and products marketed, and to suggest improvements. GAO found no satisfactory system at GU for determining the costs of its national outreach mission as distinct from its on-campus education, as well as a lack of adequate internal controls for approving and monitoring research projects. We believe that a more precise degree of accountability is required when public money is being spent; and, moreover, that setting up a better system requires the kind of thinking that is bound to enhance rather than inhibit research creativity. We also support GAO's finding that marketing strategies at GU might be improved to reach a greater proportion of the potential audience.

The question arose with regard to both GU and NTID, about how research money should be awarded. We believe both institutions have done good research, and we want them to continue getting enough money to ensure a robust research program. But we are also convinced that competition enhances both the quality and relevance of research, inasmuch as it stimulates innovation and excellence in a way that blank-check annual subsidies do not. The level of research funding at these institutions should therefore be maintained, or increased, but a National Center on Deafness Research within the GU complex should also be created with a research agenda set by the top researchers in the field. Funding for the center would be provided from research funding at GU; a substantial portion of these funds would then be provided for competitive grants to other research organizations.

We also recommend that public comment and a peer review process become part of research plan development and project selection at GU and NTID.

Gallaudet University's Pre-College Programs

Apart from its regular on-campus education of both elementary and secondary students, GU has a national mission as well. With its Pre-College programs, GU's charge is to conduct research, to develop educational materials and techniques, and to disseminate the resulting

products to improve other educational programs for students who are deaf across the country. The Congress asked GAO to review the Pre-College programs in four areas in order to: (1) describe the kinds of activities that make up the Pre-College national mission; (2) determine the amount of money spent for these national mission activities; (3) see how well the Pre-College programs' research results are disseminated; and (4) recommend improvements.

To satisfy those objectives, GAO conducted field work at GU and at schools that use GU's products; collected information on GU's research projects and product sales for fiscal years 1984-86 and on the Pre-College programs' training and technical assistance activities since 1978; investigated the process followed by GU in developing and evaluating curricula and programs; examined GU's rationale for estimating the costs of its national mission activities; and critiqued GU's marketing approach for disseminating its products and its training and technical assistance activities.[1]

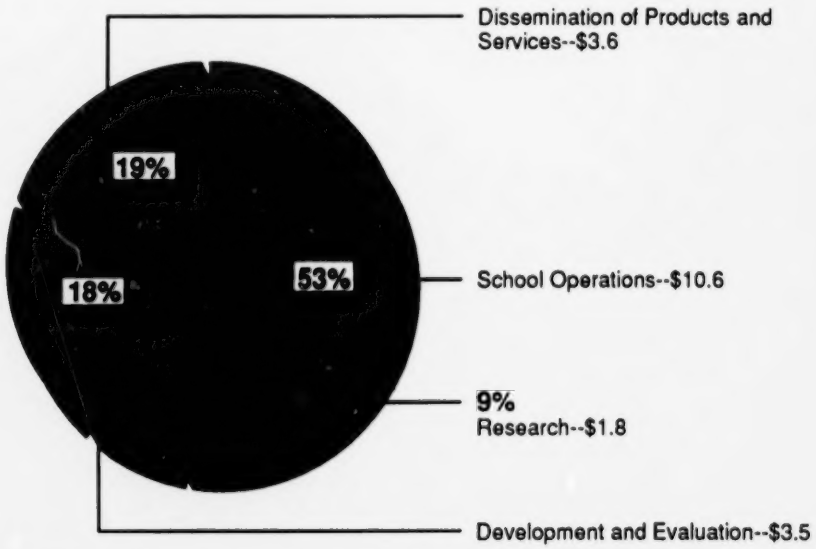
The Pre-College programs lack a satisfactory system for determining national mission costs.

Because the Congress has given GU a specific charter not only to educate deaf students at its Washington, D.C. campus, but also to operate KDES and MSSD as model demonstration schools for the rest of the country, GAO attempted to find out what proportion of funding was allocated to each function. In carrying out its national mission to stimulate excellent educational programs for the hearing impaired, Pre-College programs conduct activities in three areas: research, development and evaluation of curricula and programs, and dissemination of products and services (training and technical assistance).

GAO was unable to determine the exact cost of national mission activities from GU's accounting records. GU's financial management system is designed to track costs only by educational departments, staff offices, or major research groups. GU estimated that $9 million of its $19.6 million Pre-College budget was spent on national mission activities (see figure 4.1).

However, these cost estimates, which reflect the relative emphasis placed on national mission activities versus school operations, entailed considerable judgment by GU. Variations in these kinds of cost estimates produce significant changes in the per-student cost of school operations. In order for GU and the Congress to make more informed decisions on the management and direction of the Pre-College programs, a system for accumulating the actual costs and allocating overhead to these activities is imperative.[2]

Figure 4.1: Estimated Costs for GU's Pre-College School Operations and National Mission (Fiscal Year 1986, Dollars in Millions)



National mission costs do not add to $9 million due to independent rounding.

Source: U. S. General Accounting Office, *The National Mission of Gallaudet's Elementary and Secondary Schools* (GAO/HRD-87-133, Sept. 30, 1987).

The Pre-College programs lack adequate internal controls for approving and monitoring research projects.

GAO also found that GU failed to document the costs of specific research projects and lacked adequate internal controls for approving, monitoring, or evaluating the progress of its projects. According to Pre-College officials, the procedures for initiating a research project are informal and unwritten, but generally include the filing of an application containing a description of the project, its subjects, and its methodology. However, the Pre-College programs were not able to produce documentation on many of the research projects being conducted. Procedures for reviewing and evaluating research projects were likewise informal and largely undocumented. To complement any system introduced to assess the costs of the national mission, GU should develop written policies and procedures for approving and monitoring research projects dealing with the precollege population. Such procedures should also provide for the costs of individual research projects to be documented.[3]

The Pre-College programs could increase product availability by improving their marketing strategies.

GU disseminates its Pre-College program activities and markets its products largely through the GU bookstore catalog, subscriber publications, and outreach products. GAO reported that most of the users surveyed found the products and services to be satisfactory. However, many educators indicated a need for additional materials for students with higher or lower than average achievement levels and for classroom materials that could be more easily adapted to different teaching situations. Pre-College products were reaching schools attended by about 30 to 60 percent of the hearing-impaired school-age population. Because GU relies primarily upon its bookstore catalog to disseminate product information and stimulate sales, GU should consider various strategies aimed at maximizing its use, such as revising the format of the catalog to make it more informative, providing courtesy copies of new products to subscribers, and instituting a refund or return policy.[4]

Therefore, GAO recommended that GU: (1) establish a system to account for separate expenditures according to school operations or national mission; (2) develop written policies and procedures for approving and monitoring research projects that reflect individual project costs; and (3) reevaluate the overall Pre-College marketing strategy.

We support GAO's findings and endorse its recommendations.

Gallaudet University and the National Technical Institute for the Deaf

We further examined the role and impact of research, development, and evaluation activities conducted by GU, GU's Pre-College Programs, and NTID. We emphasize that it has not attempted to evaluate the quality of research at GU and NTID; however, it has considered how research, development, and evaluation projects should be funded and whether there has been adequate oversight to ensure cost-effectiveness and quality.

Competition for research dollars will enhance the quality and relevance of research related to deafness.

Both NTID and GU (including GU's Pre-College programs) are authorized by law to conduct research. Current appropriations for these institutions are about $9 million for research, development, and evaluation projects.[5] GU receives direct appropriations from the Congress as well as some competitive federal research grants, while NTID receives only direct appropriations (it elects not to compete for research grants but is reconsidering this position).

Much of the stimulating research in deafness has been done at institutions other than GU and NTID. Important studies have been supported by the Department of Education's National Institute on Disability and Rehabilitation Research, notably at RTC-31, the Arkansas-based center, and the University of California Center on Deafness. Innovative work on language acquisition is under way at Smith College in Massachusetts, and studies on how deaf children learn have been conducted at the Salk Institute in California. Although there is significant value in having extensive research programs at GU and NTID, other research centers, such as the Research and Training Center on Deafness and Hearing Impairment in Little Rock and Northeastern University in Boston, are currently conducting exciting and significant research on deafness and deaf education. We strongly support the Department of Education's continued funding of these research projects.

We believe that competition stimulates innovation and excellence and that blank-check annual subsidies discourage both. In an era of tight resources, scarce funds should be made available to support the best research regardless of where it is performed. We also find that some of the research conducted by NTID, GU, and in particular, GU's Pre-College programs, could be made more relevant to the needs of deaf students nationwide. The quality of research on deafness will be enhanced if GU, NTID, and other research centers are allowed to compete for federal dollars earmarked for research on deafness. Accordingly we published a draft recommendation to reduce the base level of line-item federal funding for research at GU and NTID and to make the remaining money available for competitive grants for deafness-related research administered by the Department of Education.

In response to this draft recommendation, NTID said that approximately 3 percent of its federal appropriation is used for research and that its research expenditures for fiscal year 1986 totaled only $885,000. The present level of funding provides money to support the work of 20 full-time researchers. Most of the current research at NTID focuses on problems and needs encountered within NTID, and uses NTID students or graduates as its population base. NTID believes that considerable federal funding is presently available to support research of acceptable quality in topics specific to hearing impairment.[6] We subsequently concluded that this level of research at NTID was appropriate and that our final recommendation should not result in a change in this level of research funding at NTID.

GU representatives maintained that advances in deafness-related research rest more on deriving a greater share of federal research

funds available for handicapped research, rather than on reducing existing support to GU and NTID. They further asserted that a cut in direct funding would diminish research accomplishments and would also lead to a reduction in federal government support of deafness-related research. They also stated that the research figure which we cited included funds for the Gallaudet Research Institute as well as some of the funds identified as being associated with the GU Pre-College national mission activities. GU further reiterated the difficulty in separating the cost of national mission activities versus educational and administrative activities.[7]

It should be noted that because the Pre-College programs include substantial research and development activity, it is our intent that any rearrangement in the organization of the research function at GU would include these Pre-College funds. After reviewing these and other responses and considering other administrative and organizational arrangements for managing deafness research, we concluded that the overall level of research funding at these institutions should be maintained (or increased). However, we still see the value in providing money for competitive grants for deafness-related research.

In order to promote coordination and cooperation among institutes and agencies that would compete for these research dollars, we propose the creation of a National Center on Deafness Research within the GU complex. The Center would develop a research agenda relying on the input of the best researchers in the field of deafness and deafness education. The Center would then carry out its own research and develop a competitive process to provide research grants to other research organizations. The Center should not be allowed to compete for the money it would distribute. The funding for the Center would be provided from the current research funding at GU and any additional amount that the Congress would provide. The Center would, therefore, have roughly $7.8 million (based on 1986 figures) to carry out its program, and we believe that a substantial portion of these funds should be provided for competitive grants. The Center would also be responsible for actively disseminating the research findings to deaf persons, deafness professionals, and other interested parties.

The national programs lack a mechanism for providing oversight of the research activities conducted at both institutions.

GAO reported that GU lacks an oversight procedure for selecting, conducting, and monitoring research, development, and evaluation activities. Although GU and NTID set general research priorities,

decisions on research projects occur within the organizations with little outside scrutiny.

Recommendation 27

The Congress should establish a National Center on Deafness Research within Gallaudet University. Present funding at Gallaudet University for research-related purposes would not necessarily be increased, but would be managed by the Center. A significant portion of the Center's research funds should be awarded competitively to other qualified research organizations.

Recommendation 28

The Congress should direct Gallaudet University and the National Technical Institute for the Deaf to develop concrete research plans and to provide them for public comment by consumers and researchers. The projects should then be selected in conjunction with a program review process involving (principally) the best researchers in the field.

[1]U. S. General Accounting Office, *The National Mission of Gallaudet's Elementary and Secondary Schools* (GAO/HRD-87-133, Sept. 30, 1987).

[2]General Accounting Office, *National Mission*.

[3]General Accounting Office, *National Mission*.

[4]General Accounting Office, *National Mission*.

[5]Department of Education, Letter (Dec. 30, 1987). Funds allocated at NTID and GU for research (1987): NTID, $1,181,000; GU, $2,658,000. Funds allocated at MSSD and KDES (1986): research, $1,840,000; development, $3,520,000.

[6]National Technical Institute for the Deaf, NODR2 #35 (Nov. 13, 1987).

[7]Gallaudet University, NODR2 #26 (Nov. 12, 1987).

Professional Standards and Training

Summary

There is a pressing need for establishment of nationwide professional standards, as well as better training programs at almost every educational level.

Early Childhood

The number of preschool-age children requiring education has doubled in the past decade. The push for earlier identification of infants and children with impaired hearing, among other factors, foretells further increases in this population—especially because all states are mandated to move ahead in this arena by 1991 if they expect federal funding. Some states have already begun. We urge other states to follow their lead, and suggest that the parents of deaf children be kept apprised of all programs and changes. We recommend that, as standards are set, the educational and psychological needs of both deaf children and their families be kept in mind; and that, in setting standards for early intervention, at least one expert in deafness should be on each of the crucial committees.

We find that few professionals in regular preschool classes have the preparation or knowledge for dealing with deaf children. Children not exposed to deaf adults at home do not get this exposure in class either—though deaf adults are needed both as facilitators of learning and as role models. So in our recommendations for training programs in this area, we underline the requirement that deaf adults be included.

Elementary and Secondary Education

Here, too, uniform state standards are lacking. The Council on Education of the Deaf (CED) has, however, established standards that are widely accepted. We recommend that the Department of Education set up guidelines that would minimally be no less stringent than CED's. As for training, here again, regular educators with deaf children in their classes lack the knowledge to serve their needs. With enrollments declining in teacher-training programs, we recommend that new teacher-training programs be established, and some re-established, with a built-in requirement for aggressive recruitment, and priority given to qualified members of minority groups and people who are deaf.

Interpreters

Throughout the educational system, few people understand the vital importance of interpreters; often there are no policies regarding them, nor any certification requirements. Only two programs exist for training interpreters specifically for education. Among our recommendations are Department of Education guidelines for the states in setting standards as well as establishing and developing training and recruitment programs. The need applies to rehabilitation settings as well. We also note a critical shortage of professionals qualified to serve the needs of deaf persons in rehabilitation settings; therefore,

we recommend awarding stipends to persons wishing to upgrade their skills in this area.

Teacher Standards and Training for Early Childhood Educational Settings

Standards

The increased enrollment of students who are deaf in preschool special education programs, coupled with recent EHA amendments, creates a pressing need for program and personnel standards to ensure the provision of quality services.

Despite the overall decrease in the number of children who are deaf, the number of deaf children under age 5 rose from 2,908 (1975-76) to 4,629 (1985-86), constituting a marked upward trend in preschool enrollments in special education programs.[1] The fact that the number of preschool-age deaf students receiving services nearly doubled over the past decade and will continue to increase as improved early identification procedures are employed presages a need for more services. States seeking to qualify for federal funds under EHA must provide early intervention services to all handicapped preschool students by 1991.[2] As states provide early education services, standards for personnel and programs need to be developed by parents, specialists in early intervention and deafness, and adults who are deaf. Several states have already taken the initiative to develop personnel and program standards specifically for the provision of services to deaf children. We encourage other states to review these standards as they develop their own. As this occurs, it is important to see that parents have access to information about standards, so they can better assess the quality of individual programs.

It is equally important that professionals knowledgeable about deafness be actively engaged at the state level. The State Interagency Coordinating Council is a key body responsible for monitoring the quality of educational services. The Council is to be composed of 15 members, appointed by the governor, to include parents of handicapped infants or toddlers, public or private providers of early intervention services, at least one representative from the state legislature, at least one person involved in personnel preparation, and other members representing each of the appropriate agencies that either provide or pay for early intervention services. The Council must provide meaningful and expert advice and assist the lead agency to develop and implement the policies constituting the statewide system of early intervention programs. The Council will also prepare and

submit an annual report to the governor and the Secretary of Education on the status of early intervention programs operating within the state.[3]

Recommendation 29

The Department of Education should require state educational agencies to conduct statewide planning and implementation activities, including the establishment of program and personnel standards that specifically address the educational and psychological needs of families with young children who are deaf. Individuals working with young deaf children and their families should be professionally trained in the area of deafness and early intervention.

Recommendation 30

The Department of Education should suggest that at least one member appointed to each State Interagency Coordinating Council be knowledgeable about deafness.

Training

Few professionals have the specific knowledge and training required to successfully serve young deaf children and their families.

In the area of early intervention, most of the individuals who now work with young deaf children have been trained as teachers for the school-age deaf population, as communicative-disorder specialists, as early childhood/special education teachers, or in other fields. They need specialized training to serve preschool-age deaf children and their families. Personnel who staff early education programs require extensive competence and skills if they are to provide effective, high-quality services. There are very few personnel training programs in the United States that include in their curricula such necessary components as assessment and diagnostic teaching techniques with infants, hearing-aid selection and placement with infants, referral criteria and procedures, the development of listening skills, prelanguage and language development, and the counseling and teaching of parents.

The inclusion of deaf adults trained as facilitators in early childhood programs would provide deaf children and their parents an opportunity for early and frequent contact with deaf role models.

Many deaf children do not have the opportunity to associate with deaf adults at an early age; likewise, many parents of deaf children have no prior experience with or understanding of deafness. The infusion of deaf persons who are knowledgeable about their hearing loss and trained to work with parents into home and school educational settings would provide wonderful opportunities for deaf children to be exposed to deaf role models. The participation of deaf persons in this critical capacity would also serve to introduce parents at the earliest possible time to persons who are deaf, thus allaying

some of their concerns about the future of their children. Parents could then focus on constructive intervention and parenting and at the same time develop higher levels of communication skills with the help of trained specialists who are deaf.

Recommendation 31

The Department of Education should ensure that grants for personnel training be targeted to personnel providing special services, preschool, and early intervention services to deaf children, from birth to age 5, and their families. Training should also be provided to adults who are deaf to prepare them to work as facilitating team members in local intervention programs.

EHA authorizes grants for training personnel who provide special services as well as preschool and early intervention services.[4] The authority for special project grants was expanded to include in-service training of personnel who provide early intervention services. Amendments to section 632 authorize grants to institutions of higher education for the purpose of establishing and maintaining preservice and in-service programs to prepare personnel for work with handicapped infants, toddlers, children, and youth, consistent with a state's personnel needs.

Teacher Standards and Training for Elementary and Secondary Educational Settings

Standards

The absence of uniform standards among states for professional training and preparation creates disparities in the quality of services provided to students who are deaf.

State certification regulations and program standards influence both the availability and quality of teachers. Certification standards are currently developed and enforced by each state education agency and can be categorized as follows: (1) those that call for a specific number of credit hours in specified deafness education subject areas; (2) those that mandate a specific number of semester hours in deafness education from an approved program without indicating what subject areas must be covered; and (3) those that simply require a teacher to complete the deafness education program of an approved college or university without specifying semester hours or required areas of study.[5]

The Council on Education of the Deaf (CED) has established widely accepted standards for professionals in the field.

CED is a national organization that serves three major groups of educators and professional personnel engaged in the education of hearing-impaired students: the Alexander Graham Bell Association, the Convention of American Instructors of the Deaf, and the Conference of Educational Administrators Serving the Deaf.

CED has set widely accepted standards for teachers of deaf students. These standards require that teachers have skills which allow them to identify and evaluate the general education needs of all hearing-impaired children. They must also develop special abilities in at least one level or area of specialization such as parent-infant education, early childhood education, elementary education, secondary education, vocational education, and education of multihandicapped deaf students. In addition to the certification of teachers, CED has expanded its program to include the certification of supervisors of instruction, administrators, and psychologists.

Standards set by CED do not endorse any one method, combination of methods, or particular philosophy of teaching. Of the 79 teacher-training programs in existence, 28 are not certified by CED.

Since diverse methodologies are employed to instruct students who are deaf, many teachers lack skills in the specific communication approach used within their particular program.

Although instructional practices and communication methods may vary from program to program, a common factor that should be present in every program is consistent and complete language input. Graduates of teacher training programs often do not have the necessary communication skills to allow them to serve as language models. For example, despite the fact that the majority of programs serving deaf students now use sign language communication, teacher-training programs may have few or no requirements concerning the level of sign proficiency that teachers need to work effectively in those programs. In a national survey on attitudes toward sign language communication, teachers consistently reported discomfort with their own signing performance and an inability to comprehend the sign communication of their students.[6] Thus, it is not uncommon for students to be more proficient at sign language than their teachers. Additionally, many existing teacher training programs do not provide instruction in a variety of methodologies such as cued speech, oral, and auditory-verbal approaches. In addition, because of the key importance of English language development, psycholinguistics should be a required area of study.

Recommendation 32

The Department of Education should provide guidelines for states to include in their state plans such policies and procedures at least as stringent as those set by the Council on Education of the Deaf, to ensure that professionals in educational programs for students who are deaf are adequately prepared and trained.

Recommendation 33

The Department of Education should require states to ensure that persons employed to teach in special education programs demonstrate competence in the instructional practices and communication methods utilized within those programs.

Training

Regular education teachers who have a deaf child in their classroom often lack appropriate preparation and assistance to serve that student.

Working with deaf students who are being educated in a mainstream setting requires special skills. Although a growing percentage of deaf students are being educated in regular classroom settings to some extent, teachers often have no prior experience in teaching them. In many states, regular classroom teachers are required to complete just one introductory college course in special education that only marginally addresses the topic of deafness. Personnel preparation programs are not available for many support personnel needed to maximize the effectiveness of mainstream teaching. Current CED standards do not delineate skills in the area of collaborative teaching. Teachers who work with only a small number of deaf children also lack technical assistance and support.

Enrollment declines in teacher-training programs document a need to recruit qualified persons into the field of deaf education.

The lack of federal funding for teacher training and preparation programs has a negative effect not only on the quantity, but also on the quality of such programs. In 1986, there were 79 teacher preparation programs with a total of approximately 787 graduates. Federal support since the 1960's made 60 percent of these programs possible. Nationally, enrollments in training programs for teachers of students who are deaf are declining. Forty-five percent of these programs report a decline in the undergraduate enrollment during the past five years, while 33 percent of the graduate level programs report a decline for the same period.[7]

Recommendation 34

The Department of Education should require states to ensure that regular classroom teachers serving students who are deaf in their classes receive the necessary technical assistance and training to meet the special educational needs of the students.

Recommendation 35

The Congress should re-establish federal support for teacher preparation, including the recruitment of highly qualified applicants in the field of education of the deaf. Priority for fellowships to qualified applicants should be awarded to members of minority groups and persons who are deaf.

Interpreter Standards and Training for Educational Settings

Standards

It is vitally important to students who are deaf that only interpreters possessing appropriate qualifications be employed in regular educational settings.

The Registry of Interpreters for the Deaf (RID), a national certifying organization for interpreters, has established guidelines for professional interpreters but has not established special provisions for *educational* interpreters. In 1985, the National Task Force on Educational Interpreting (NTFEI) was formed to "examine and clarify roles and responsibilities, training and certification, working conditions, and other needs concerning educational interpreters and their services to mainstreamed deaf students at all educational levels." NTFEI is also seeking to establish standards for educational interpreters and to promote "equitable salary ranges as determined by skill level required and advanced training expectations."

A lack of minimum standards for interpreters and pervasive confusion about their role has compromised the educational services provided to many deaf students. In regular classrooms, hearing students generally communicate by speaking and listening. For many deaf students, however, interpreters are needed to facilitate communication with their teachers and classmates. EHA requires that deaf students be integrated into regular classroom settings to the maximum extent possible, but if quality interpreting services are not provided, that goal becomes a mockery.

Many parents have experienced deep frustration in their attempts to convince school administrators of the need for qualified interpreters:

> "The interpreters in our program have gone to supervisors and asked for guidelines, because we care about our kids, and they look at us like we have three heads. They don't want to spend the money and they don't want to hear about it. They don't care if the interpreter is trained or not. They have provided an interpreter and met the minimum legal requirements."[8]

The complexity of the task and the skills required of an interpreter are easily overlooked by individuals unacquainted with deafness. An

educator of deaf children describes the skill level required of qualified interpreters:

> "Just as a person who completed two levels of a foreign language in college would not be qualified to interpret at the United Nations, completing two levels of sign language does not make a qualified sign language interpreter in any setting."[9]

Most states do not have state policies to delineate the role of educational interpreters or to require that they be certified before being employed by educational agencies.

There is a shortage of qualified interpreters; as a result, some state and local education agencies permit individuals with no formal training to interpret in the schools. Candidates are sometimes hired without a demonstration of their interpreting skills. The lack of minimum standards has also created confusion among classroom teachers, administrators, parents, students, and interpreters as to the exact role and responsibilities of the educational interpreter. Classroom teachers and students, deaf and hearing, are frequently unfamiliar with the proper use of educational interpreters. School administrators often write job descriptions for interpreters without assistance from qualified consultants and, consequently, inappropriate duties are assigned to the interpreter. Such duties may include clerical and teacher aide work, and the salaries paid to the interpreters reflect these lower paying positions.

The lack of minimum standards blocks the recognition of educational interpreters as professionals both in status and salary. We strongly endorse the establishment of guidelines to address the following areas: recognition of interpreters (e.g., sign language, cued speech, oral, and deaf/blind interpreters) as professionals in both status and salary; clarification of the role and responsibilities of the educational interpreter, with input from qualified consultants and consumer groups; methods for supervising and evaluating educational interpreters; and pay scales that reflect the interpreter's level of certification, experience, and training.

The Department of Education believes it is not responsible for providing guidelines to states for establishing standards for educational interpreters:

> "Responsibility for establishment of standards for interpreters for deaf individuals rests with the State professional and consumer organizations in the field of deafness and with the National Registry of Interpreters for the Deaf . . . The Department of Education does not and should not assume this responsibility."[10]

Recommendation 36

The Department of Education, in consultation with consumers, professionals, and organizations, should provide guidelines for states to include in their state plans such policies and procedures for the establishment and maintenance of standards to ensure that interpreters in educational settings are adequately prepared, trained, and evaluated.

Section 613(a) of EHA requires states to include in their plans "policies and procedures relating to the establishment and maintenance of standards to ensure that personnel . . . are appropriately and adequately prepared and trained."[11] It also requires states to establish and maintain standards consistent with state approved or recognized certification, licensing, registration, or other comparable requirements that apply to a particular profession or discipline.[12] In developing guidelines for educational interpreters, the Department of Education should work closely with the Registry of Interpreters for the Deaf, the National Task Force on Educational Interpreting, and other organizations and consumer groups.

Training

The need for interpreters to possess special skills for work in educational settings has increased tremendously over the past 20 years.

One survey cited classroom interpreting as the most stress-inducing setting after legal and voice interpreting,[13] although classroom interpreting could include elements of both. An educational interpreter must not only be skilled in the general competencies of most interpreting situations (i.e., fluency in at least two languages, appreciation of two different cultures, ability to concentrate for long periods of time, and demonstration of good judgement), but must also consider the varying cognitive and linguistic development levels of the students; the differing sign and oral systems used for interpreting; the appropriateness of performing other duties; an awareness of the shifting of responsibility along the age continuum between student and interpreter; and the need to work cooperatively with teachers, administrators, parents, and students.

Passage of EHA and the Rehabilitation Act of 1973 led to the integration of thousands of deaf students into public schools across the country and the establishment of new postsecondary education programs for deaf students. In 1987, nearly two-thirds of all graduates of interpreter training programs went into the field of educational interpreting.[14]

There are only two training programs that specifically train interpreters for work in educational settings.

Although NTID's 1986 Interpreter Training Programs resource guide lists 48 interpreter training programs in 30 states, only two are specifically designed for educational interpreters. Interpreters themselves recognize that they do not receive adequate training in such subjects as child and language development, cognitive processing, various sign/oral systems, and other special areas of expertise required in educational settings. Training programs should offer courses addressing special issues, such as the various sign systems used in educational settings; oral and cued speech interpreting; manual communication with deaf/blind persons; the need for collaboration between teachers, administrators, and counselors; and the cognitive and language development processes of hearing and deaf children. Section 304 of the Rehabilitation Act currently funds only 10 of the 48 interpreter training programs at a cost of $900,000.[15]

Recommendation 37

The Congress should provide funding to develop training programs, design curricula, and award stipends to recruit and train potential and working educational interpreters.

Part D of EHA allocates funds to promote staff development of special education personnel. This money could be used to provide stipends to potential and working interpreters who seek training in the field of educational interpreting.

Interpreter Standards and Training for Rehabilitation Settings

Standards have never been established for training and certifying interpreters working in rehabilitation settings.

We are concerned that section 315 of the Rehabilitation Act, which authorizes RSA to provide grants to states for establishing interpreting services, has never been funded. Consequently, standards for interpreters employed by these interpreting services have never been developed, as stipulated in section 315. These standards would pertain to interpreters in postsecondary education, rehabilitation, and other human service settings governed by the regulations described in section 504 of the Rehabilitation Act. Section 504 requires that all recipients of federal funding provide reasonable accommodation to disabled persons in postsecondary, rehabilitation, mental health, medical, and work settings.

Gallaudet suggests that it would be "important to coordinate the efforts of the educational programs training interpreters with the desires of the particular clientele. It is the training programs that will ultimately need to educate graduates to meet these standards."[16] The New Mexico Association of the Deaf also proposes that the standards include "provisions for the training and placement of interpreters in rural areas and to provide for mental health interpreters."[17]

Recommendation 38

The Congress should fund section 315 of the Rehabilitation Act. The Department of Education should establish standards for interpreters in the field of rehabilitation and other human service settings.

Professional Training for Rehabilitation Settings

There is a continuing and pervasive shortage of personnel qualified to work with the clients who are deaf in rehabilitation settings.[18]

We note that professionals who specialize in working with clients who are deaf is a rapidly expanding field of rehabilitation.[19] It is imperative that the skills required to work effectively with this special population be identified. The 1984 amendments to the Rehabilitation Act recognized this need and, therefore, contained two provisions that would: (1) mandate that the word "qualified" be inserted into the act before the word "personnel" appeared; and modify (2) section 304(c) of the act to require that the Commissioner of RSA prepare a yearly report of rehabilitation personnel shortages and ways that training funds can be used to alleviate such shortages.

We believe that the identification of the skills required of "qualified" personnel and the training of professionals to work with clients who are deaf should become a top RSA priority over the next several years.

Many respondents noted instances where "unqualified" personnel have been employed to work with clients who are deaf:

> "It is becoming necessary to hire counselors who are not qualified to work with deaf people, and to train them on the job; it often takes two years for such persons to develop the minimal skills needed for the job . . . I recommend that training stipends be made available to persons who wish to enter Master's degree level training programs that offer specialized training in the deafness area."[20]

It is clear to us that such circumstances can only delay effective rehabilitation of deaf clients. On-the-job training is unacceptable. Clients cannot and should not wait for counselors to develop minimal skills needed for the job before their clients get the services to which they are entitled.

Several respondents suggested that training for rehabilitation personnel be practical in nature, and include coursework that includes experience with multihandicapped deaf persons, persons in rural areas, mental health counseling, audiology and hearing aid fitting, communication methods, deaf culture, and psychological and vocational assessment techniques.

In 1986, the Department of Education established a priority to provide more training for deafness rehabilitation professionals. For fiscal year 1987, 13 projects were funded by the Department at a cost of $1,097,200. We applaud this new initiative and further recommend that training stipends be provided to fund the education of students interested in becoming professionals in deafness rehabilitation (e.g., counselors, vocational evaluators, training specialists, interpreters, mental health workers, and administrators) and to upgrade the skills of professionals already working in these settings.

Recommendation 39

The Department of Education should provide an increased number of traineeships for trainees specializing in deafness.

[1]R. J. Trybus, Statement (June 16, 1987).

[2]20 U.S.C. at 1473.

[3]20 U.S.C. 1482 (Supp. IV, 1986).

[4]Public Law 99-457, sec. 308, 100 Stat 1165-8 (20 U.S.C. at 1431).

[5]R. D. Moulton, R. A. Roth, and B. Winney, "State Certification Standards and Reciprocity for Teachers of the Hearing Impaired," *American Annals of the Deaf*, Vol. 128 (Aug. 1983), pp. 490-98.

[6]J. B. Crittendon, "Attitudes Toward Sign Communication Mode: A Survey of Hearing and Hearing-Impaired Educators of the Deaf," *American Annals of the Deaf*, Vol. 131 (Oct. 1986), pp. 275-80.

[7]N. K. Israelite and F. K. Hammermeister, "A Survey of Teacher Preparation Programs in Education of the Hearing Impaired," *American Annals of the Deaf*, Vol. 131 (July 1986), pp. 232-37.

[8]Parent group, NOI #153 (June 5, 1987).

[9]C. S. Race, NOI #154 (June 4, 1987).

[10]Department of Education, NODR2 #201 (Dec. 30, 1987).

[11]20 U.S.C. at 1413(a)(14).

[12]At 1413(a)(14)(A).

[13]J. Avery, Unpublished report to the National Task Force on Educational Interpreting. Cited in G. Gustason, "Development of a Process and Materials for Sign Skills Evaluations for Teachers/Teacher Aides and Educational Interpreters," Report of a study conducted under a grant from the National Institute for Disability and Rehabilitation Research, Office of Special Education and Rehabilitation Services, U.S. Department of Education (Oct. 1987).

[14]J. Avery, Unpublished report (1987).

[15]29 U.S.C. 774.

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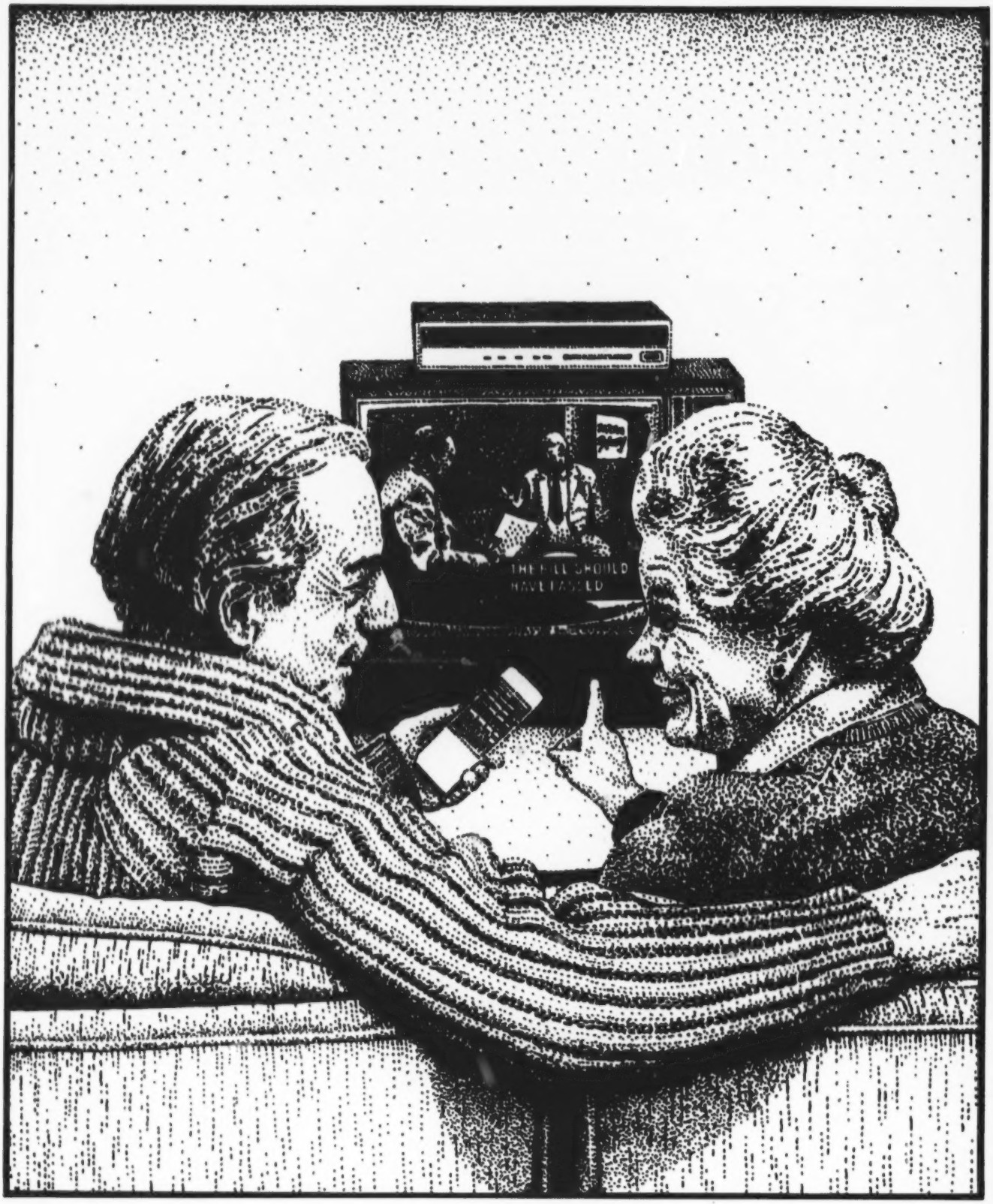
[17]New Mexico Association of the Deaf, NODR2 #36 (Nov. 12, 1987).

[18]M. Danek, "Deafness Rehabilitation Needs and Competencies" (Paper presented at American Deafness and Rehabilitation Association Conference, May 27, 1987).

[19]M. Danek, "Personnel Shortages and Practitioner Competencies in Deafness Rehabilitation," *American Rehabilitation*," Vol. 13 (July-Aug.-Sept. 1987).

[20]D. Myers, Statement (Aug. 3, 1987).



Technology—Progress and Potential

Summary

Perhaps the single most hopeful prospect for achieving quantum leaps in progress for persons who are deaf lies with technology, much of it computer-based.

The most rapid immediate progress can be made by exploiting a technology that has been with us for some time: captioning—the appearance on the film or TV screen of what is being said, so that those who cannot hear can see what is said. Some captioning is "open," in that it appears for all to see, like subtitles on foreign movies. Some is closed—visible only to those who possess a captioning decoder. There is every reason to believe that captioning speeds the attainment of literacy. More than that, it helps the deaf person participate in the wider world that is routinely accessible to those who hear.

These processes—the attainment of literacy and a wider acquaintance with the world at large—can be most effectively enhanced by the accelerated use of captioned TV. TV is the most pervasive and influential means of sharing information in America. It is currently shared with deaf people through the use of "closed" captioning. Our recommendations urge a concerted effort to caption virtually all, or at least the bulk of, TV programming. Broadcasting networks should be required to caption more of their programming. Federal funding for captioning, instead of being distributed to captioners, should be distributed to producers and broadcasters. We also recommend that current appropriations for decoder research be used for the free provision of current-generation decoders to persons who are deaf, while awaiting regulations requiring new TV sets to come with built-in decoding capability. All this is readily affordable and chances are it could be profitable for the private sector. As with much of the other technologies we speak of here, an added motivation for the swift exploitation of these remarkable devices and methodologies is the fact that some of them may be of great use to large segments of the nondeaf population as well as persons who are deaf. The more potential customers, the better the chance for fast action to put products on the market at reasonable prices. The capacity to watch TV and see the dialogue printed in English at the same time would be of great interest, for example, to the large audience of ethnic minority groups who speak other languages but are learning English.

There are, of course, a number of technological areas whose promise is almost exclusively for those who are deaf. The smaller market potential poses the danger of lagging development, hence, a particular need for federal support and encouragement.

Among these, for instance, are speech development software, where you can *see* what the spoken voice *sounds* like by means of a voiceprint

image; the pupil can compare his or her voiceprint to that on the screen. Other devices enable you to read on a screen what's being said or to vocalize words that you type into the computer. There are TDDs that enable a deaf person to make and receive telephone calls. Hearing aids are performing better, and cochlear implants have been approved for adults by the Food and Drug Administration.

There are alerting systems that use flashing lights and vibrators to signal that the phone is ringing, or the baby is crying. There are also many devices for persons who are deaf/blind as well, including a Braille TDD. These do not by any means exhaust the hardware and software that are now—or are becoming—available. In some cases, there are still technical bugs to be ironed out; in others, more sophisticated versions are already being designed.

Because there are numerous impediments—mostly cost-related—to the successful integration of these highly promising technologies into the classrooms and into the lives of deaf persons, we have made 4 recommendations. Our recommendations cover (1) the provision of funds for research, development, acquisition, and maintenance of these technologies; (2) the requirements for federally funded school systems to specify accessibility of equipment to persons with disabilities when equipment is procured, leased, or rented, (3) the support of assistive devices resource centers to offer up-to-date information and instruction on these advances; and (4) the support of national symposia on media and technology to report on the latest advances in applied technology for individuals who are deaf.

Finally, we reemphasize that captioning of films, videotapes, slides, filmstrips, and especially TV is of paramount interest to us. Much more can and should be done to make captioned TV accessible to a wider audience, in part through encouraging greater participation from the private sector.

Captioned TV Services

Captioning of TV, made possible by federal initiatives and voluntary efforts, is the most significant technological development for persons who are deaf.

TV is the most pervasive and influential means of sharing information in America. Until the 1970's, deaf persons had no access to TV, and were isolated from the major pipeline feeding information to America. The development of captioning made it possible for deaf persons to see what others heard on TV.

The first nationally available captioned program was *The French Chef*, captioned at the Caption Center at TV station WGBH in Boston with federal funding. The captions were open, meaning they could be seen

on every TV set. Closed captions, introduced later, can be seen only on TV sets with a decoder that picks up and displays the captions.

The Federal Communications Commission (FCC) has taken a number of steps to facilitate captioning. In 1970, it advised broadcasters to utilize TV's capacity to "alert, assist, and entertain persons with impaired hearing . . . to the fullest extent."[1] FCC explained that its notice was "advisory in nature," but warned that mandatory requirements might be imposed if voluntary efforts were not satisfactory.[2] In 1976, FCC required that all emergency announcements be broadcast visually.[3] That same year, it reserved Line-21 of the TV broadcast signal for transmitting closed captions, but did not impose requirements for mandatory captioning due to technological and economic factors.[4] In 1983, FCC authorized TV stations to engage in teletext service as well as closed captioning, in written and graphic format.[5] To ensure that TV would continue to be accessible to persons with impaired hearing, FCC withheld permission for the use of teletext on Line-21 for a period of 5 years.[6] In that same action, FCC commended the voluntary efforts by the TV industry in captioning and encouraged the industry "to continue to provide and expand such services."[7]

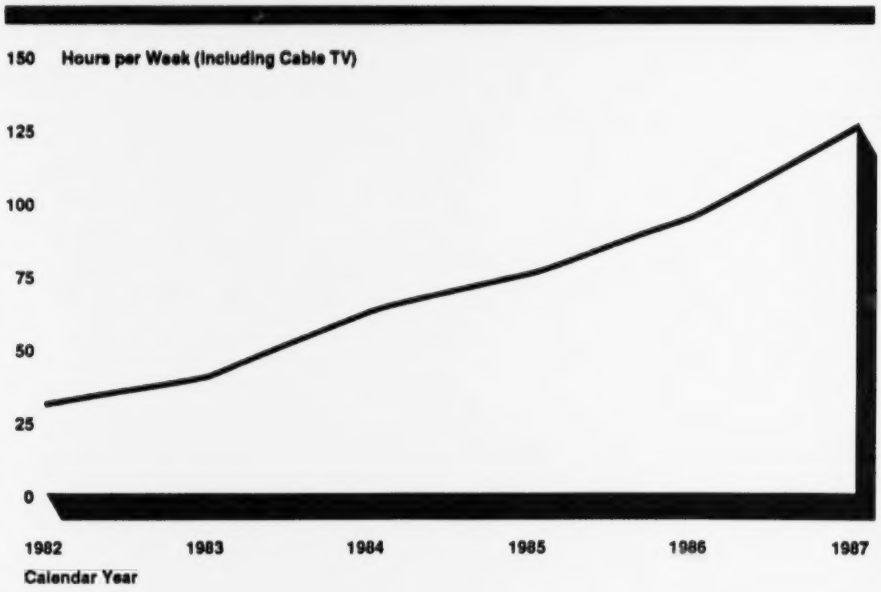
In 1979, the National Captioning Institute (NCI) was founded with federal start-up funds as a private nonprofit corporation.[8] It was charged with captioning TV programs using Line-21 technology. In 1980, closed captioning TV services were launched as a cooperative arrangement between NCI, the American Broadcasting Company (ABC), the National Broadcasting Company (NBC), the Public Broadcasting Service (PBS), and Sears Roebuck & Company. ABC, NBC, and PBS agreed to caption up to 16 hours of their programming per week and Sears agreed to manufacture and sell decoders.[9] At that time, the Columbia Broadcasting System, Inc. (CBS) declined to transmit captions using Line-21 technology. In 1984, CBS agreed to transmit closed captions using both Line-21 and its own teletext technologies.

Presently, the federal government provides about 40 percent of the funding for captioning. The networks provide another 30 percent, while corporate advertisers, foundations, and individual contributions make up the remaining 30 percent.[10] Federal funds are provided through the Department of Education for a variety of captioning activities, including captioning of local and national news, children's programs, syndicated programs, sports programming, prime-time movies, and activities for public awareness of captioning.

Both the amount of captioned TV programming and federal funding for captioning have increased. Today more than 125 hours of weekly

programming are captioned, including cable TV. The following figures illustrate the above trends.

Figure 6.1: Amount of Captioned TV Programming, 1982-1987



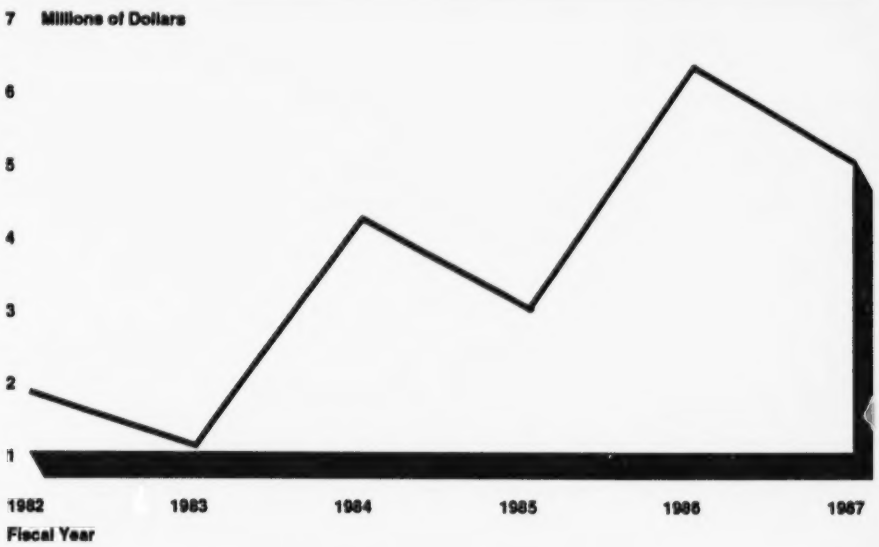
The number of hours varies depending on the time within the TV season (i.e., summer months tend to have fewer hours).

Source: National Captioning Institute (Dec. 1987).

The total amount of captioning by the three major networks—ABC, NBC, and CBS—is approximately 27 percent of their total weekly programming (about 90 out of 240 hours).[11] Virtually no programs distributed by cable-TV programmers, other than feature films, have closed captions, although over 38 million homes in America now receive and pay for cable-TV services. The following figure illustrates the number of prime-time hours captioned by ABC, NBC, CBS, and PBS.

We commend the progress in prime-time programming, but we encourage far more captioning and a movement toward a self-sustaining captioning industry. Three factors impede this: (1) the lack of mandatory captioning requirements, (2) the current mechanism for distribution of federal funds to support captioning, and (3) the low number of decoders purchased by consumers, resulting in a lack of

Figure 6.2: Department of Education Funding for Captioned TV, Fiscal Years 1982-87



Source: Department of Education (Dec. 1987).

commercial incentives for private funding of captioning services. To address these problems, we recommend mandatory captioning requirements, a shift of federal funds from captioners to producers, and a requirement for decoder capability on most TV sets. Implementation of these recommendations will benefit millions of viewers as well as increase profits for the television industry, helping defray captioning costs. Ultimately, everyone wins.

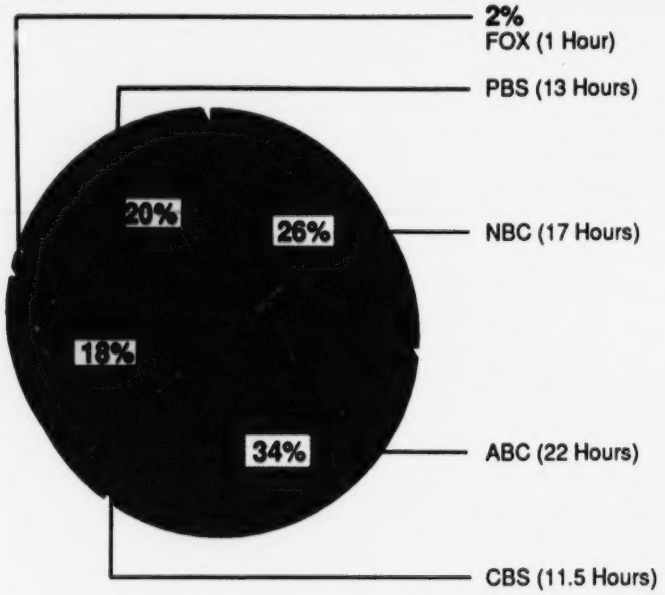
The Federal Communications Commission

TV programming has not been captioned to the fullest extent.

Except for emergency announcements, FCC has not imposed any minimum requirements upon broadcasters or cable-TV programmers to caption their programming. Instead, FCC has relied on "voluntary initiatives of broadcasters to close caption programming"[12] and states that, in light of the increase in the amount of captioned programming per week, its policy of voluntary captioning is "working."[13]

We contend that its policy is *not* working in light of the fact that less than one-third of the three major networks' total TV programming is currently captioned, and we recommend that the Congress require FCC to develop regulations for mandatory captioning.

Figure 6.3: 1987-88 Prime-Time Weekly Captioning



There are 22 hours of prime time on each network. ABC captions 100 percent of its schedule. Of a possible 110 prime time hours, 64.5 are captioned (59 percent).

Source: National Captioning Institute, Dec. 1987.

In developing regulations, FCC should consider the benefits to *all* viewers, including persons who are deaf, the growing population of elderly persons, and minority groups who are learning English as their second language. We take no position as to the amount of captioning which should be provided by the broadcasters and/or cable-TV programmers. These issues should be determined by FCC.

Both ABC and CBS oppose mandatory captioning.[14] ABC finds it "unnecessary in light of the success of the voluntary approach," and states that increased viewership, not mandatory captioning, is required for a self-sustaining captioning service.[15]

CBS stated that:

> ". . . CBS believes that mandatory captioning would infringe upon First Amendment rights of broadcasters and producers, placing an economic burden upon them that often would not be justified."[16]

Recommendation 40

The Congress should require the Federal Communications Commission to issue regulations as it deems necessary to require that

broadcasters and cable-TV programmers caption their programming.

In connection with the above recommendation, we recommend that the FCC, to avoid incompatibility among broadcasters and captioners, establish regulations or encourage adoption of standards for decoder formats and the broadcasting, encoding, and transcoding of captioning signals. These standards should require local monitoring and prohibit alteration of signals at any point after broadcast.

Funding Mechanism

The current federal funding mechanism is an obstacle to self-sustaining captioning services as it stifles competition and, as a result, keeps captioning rates artificially high.

Under the current funding mechanism, the Department of Education awards captioning funds to captioners, not to the television industry. When the mechanism was initiated, only two companies, NCI and WGBH Caption Center, both not-for-profit organizations, had captioning capabilities. Now there are at least six companies that have such capabilities. Some offer captioning rates under $1,000 per hour, 50 percent lower than what the leading suppliers charge.[17]

We received testimony and responses alleging that direct federal funds to a captioner puts the captioners with lower fees at a disadvantage because the captioner with the federal funds is able to reduce its prices to broadcasters. This, in turn, stifles competition—keeping captioning rates artificially high.

We were also told that the Department of Education permits its funds to be used to cover 100 percent of captioning costs. Such a policy thwarts successful efforts to have program producers cover some or all of their captioning costs. For example, in 1986-87, American Data Captioning (ADC), a for-profit captioner, approached several syndicated program suppliers with proposals to caption their programs. ADC's proposals reportedly were well received, due in large part to their low hourly rate—$990 per hour.[18] However, in April 1987, the Department of Education announced the availability of federal captioning funding for five programs, including $950,000 per year for 3 years for captioning of nationally syndicated programs.[19] As a result, nearly every major syndication company informed ADC that they would not consider its proposal because whichever captioner eventually won the federal contract would be able to cover most, if not all, of the captioning costs.[20] That is exactly what happened and it exemplifies perfectly a case in which the private sector was willing to use its own funds to caption, but was thwarted by the action, however well intended, of the federal government.

A very different and more competitive funding mechanism that allows for support of small-scale projects is needed for distributing federal funds to caption TV programming. We recommend creation of a Corporation for Closed Captioning to coordinate the distribution of federal funds to broadcasters, producers, and others—with the requirement that awarded funds be used to secure private sector funding commitments. We do not necessarily recommend that an entirely new institute be established to perform these duties. Rather, we suggest that the Department's original intent to establish an institute for advocating the use of captioning services incorporate an additional duty to distribute captioning funds, *without allowing the institute to compete for those funds*. CBS endorses our recommendation for a more equitable funding mechanism stating:

> "Access to federal grants to all suppliers will allow the cost of captions to be determined by market, rather than artificial conditions, and will ultimately increase the availability of captioned programming."[21]

ABC[22] stated that it has no direct interest in how captioning funds are distributed, rather it is:

> "concerned solely with fostering increased viewership. In this regard, it is important to note that historically only the . . . [NCI] has mounted public awareness campaigns and conducted research into better and cheaper decoders, without which increased viewership will remain a distant goal. If the Department of Education revises its policy concerning grants, ABC urges that all applicants be required to demonstrate how a grant would be used to augment viewership."[23]

Recommendation 41

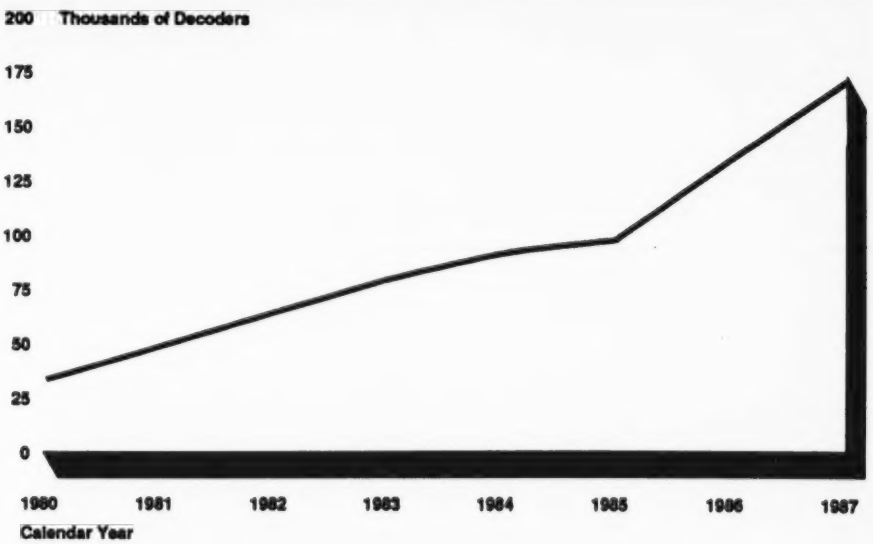
The Congress should establish a Corporation of Closed Captioning to coordinate the distribution of federal funds for captioning projects. The Corporation would neither perform captioning services, nor compete for funds with captioners.

Market Size

When decoders were first sold in 1979, it was projected that at least 100,000 decoders would be sold each year and that the size of the audience would soon permit a self-supporting industry. Decoder sales did not come close to projections; for when the decoders were first sold, there were only 16 hours of weekly captioned programs available. As a consequence, people were hesitant to purchase a decoder without assurance that the number of hours would increase.

A second decoder was developed in 1986 by NCI, and is now sold for as little as $160 with a federal subsidy. As a result, decoder sales increased, and today it is estimated that at least 500,000 people in 140,000 homes have access to decoders (see figure 6.4).

Figure 6.4: Cumulative Decoder Sales, 1980-87



The estimated number of decoders sold by year end 1987 is 170,000. The number of households served by year end 1987 is estimated at 150,000. The number of viewers of closed captioned TV by year end 1987 is estimated at 585,000.

Source: National Captioning Institute (Dec. 1987).

ABC noted that if

> "decoders were more widely used and viewership to grow, the marketplace can be relied upon to increase captioning because more viewers would be reached at a decreased per capita cost. Increased decoder ownership—not just more captioning—is required for a strong, self-sustaining captioning service."[24]

NCI concurs that the future of closed captioned TV services is

> "inextricably tied to the number of households who access it. In order to eliminate the need for ongoing federal funds and to make the captioned service economically viable and self-sustaining, captioning must reach into at least 500,000 homes and ideally 1,000,000 homes by 1990."[25]

The cost of decoders prevents many people from purchasing them.

Even at the current price of $160-$200, many people still cannot afford decoders. To address this problem, NCI has two programs that raise money to provide decoders at a reduced price to some low-

income families and senior citizens. To date, these programs have helped over 1,000 families and individuals purchase decoders.[26] However, we believe these and other efforts are not enough.

The next step in decoder technology should be the development of a low-cost decoder module that can be installed in TV sets. NCI and others agree this is feasible, and that a module could be developed in 6 months if the demand were shown. Thus, we recommend that the FCC require TV manufacturers to incorporate a decoder module into most new TV sets as standard equipment.

Anyone buying a TV with this decoder module, including deaf persons, senior citizens, and persons learning English as a second language, would have access to captioned programming. The potential for increased viewership is enormous and would become a potential bargaining chip in selling commercial slots to advertisers. The networks' increased income could very likely cover the cost of captioning their programming.

However, the Department of Education recently awarded a grant to fund development of a less expensive third-generation decoder, not specifying an internal decoder module. We believe this action delays movement toward expanding the market size of potential viewers. We recommend that rather than continuing to fund development of new external decoders, the Congress should fund efforts to develop a decoder module that can be installed into any TV set. Until such modules are available, existing decoders should be distributed free.

Recommendation 42

The Congress should require the Federal Communications Commission to issue rules as it deems reasonable and necessary to make new TV sets capable of decoding closed captions. Until such TV sets become widely available, federal funds for decoder development and manufacturing should be made available to increase the distribution of existing decoders, including provision of free decoders to persons who are deaf.

Other Issues

Federal proceedings, including congressional floor activity, federal meetings, federally produced films and other broadcast media are not accessible to persons who are deaf.

The federal government, under section 504 of the Rehabilitation Act of 1973, is required to make its programs and facilities accessible to persons who are deaf.[27] However, many federal meetings, federally produced films and media used for employment purposes or public viewing (e.g. films shown in federal museums and parks) are not

accessible to persons who are deaf. We recommend that these be made fully accessible.

Recommendation 43

Federal proceedings and meetings should be communicatively accessible for people who are deaf through captioning, assistive listening devices, and interpreters (when needed and arranged for in advance).

Recommendation 44

Instructional materials financed and/or disseminated by the federal government, including materials for public viewing and employment training, should have open captions.

Televised congressional floor debates are not captioned, and thus are not accessible to persons who are deaf.

Recommendation 45

The Congress should caption its own televised proceedings, including House and Senate floor activity.

Technology

In efforts to attain equality for those who are deaf, great promise is offered by technology, including the use of computers, advanced telecommunication devices, improved hearing and sensory aid devices, alerting systems, captioned media, and advanced technologies for persons who are both deaf and blind. There is a growing awareness in business and industry that devices making the environment accessible for people who are deaf are also a wise business investment.

Computers

Computers offer more promise for deaf individuals than has yet been realized. The following are but a few currently evolving areas.

Word Processing

For students who have traditionally found writing to be a painstaking process requiring numerous corrections, word-processing has become a powerful tool. Researchers and teachers are only beginning to discover how powerful it is.

Computer-Assisted Instruction (CAI)

Commercial and teacher-made programs are being increasingly used in classrooms. CAI has unlocked an exciting potential for new ways of teaching students who are deaf, and appears to have wider use with this population than with any other group of disabled students.[28]

Language development software—This is also used with students who are not deaf and assists in language development through immediate visual and auditory feedback and interactive "discussion." This holds

particular promise for children who are deaf because of their unique language problems. The application of new research into the linguistic processing of deaf children, coupled with the emerging software, is beginning to yield innovative language development programs, which could greatly improve the reading and writing skills of students who are deaf.

However, current language development software has its limitations. For example, students are required to respond to statements and questions, rather than be actively involved in initiating communication.[29]

Interactive systems—The interactive videodisc system creates a learning environment where the capabilities of the computer (text, graphics, response-analysis, feedback, and program branching) are blended with the capabilities of the videodisc (still images, motion segments, and audio information), so that students not only receive audio and video information, but are also queried. Their responses are analyzed, and they are provided with meaningful feedback regarding their responses.

Recent research with a microcomputer-based videodisc system that is designed to develop reading and writing skills in students who are deaf, has produced some significant results.[30] Emphasizing exploratory learning instead of programmed instruction, this videodisc system can help students in two areas of communication skill—sentence imitation and referential communication.[31] At NTID, computer-controlled, interactive videodisc programs are used for lipreading training, sign language training, and vocabulary development.

An English professor at GU has developed an interactive computer system called English Natural Form Instruction (ENFI) that allows deaf students and their teachers to "converse" in written dialogue on the computer screen. Preliminary English-proficiency testing has shown improvement in students' scores compared with scores obtained before instruction commenced.

Speech development software—Research versions of this software date back two decades, permitting persons who are deaf to practice speech with a computer, while giving them feedback on their efforts. Sophisticated programs enable computers to store the "best production" display of a visual record of a student's speech in the form of a printed image. The student then practices the same words, which are also converted to an image and then superimposed over the image of the best production so the deaf student can see the differences.

Other Specialized Computer Applications

Speech recognition—Recent advances make it possible to use a microcomputer to print on the screen what is being spoken. This could allow a deaf child mainstreamed in a classroom to understand most of what a teacher says. However, the best products available are speaker dependent, in that they only recognize one person's voice, and have limited vocabularies of less than 10,000 words. Speaker-independent systems that can understand any voice are reported to be anywhere from 5 to 20 years away.

Speech synthesis—Products costing as little as $150 can now "speak" words typed into a small computer. Deaf children could use these products to produce speech. While the quality of the computer's "voice" is still mediocre, rapid improvements are reported.

Telecommunication Devices

Before the telephone, both deaf and hearing people communicated across distances in the same way as hearing people; through letters or telegrams. The telephone provided hearing people with a tremendous advantage, which has only recently become accessible to deaf individuals.

Telecommunication Devices for the Deaf

The most common device available today to give deaf persons access to the telephone is the Telecommunication Device for the Deaf (TDD). The TDD (also called TTY) enables communication over telephone lines by typing, which produces digital and/or print readouts instead of voice transmissions. Advanced TDDs offer speech synthesis, store-and-send, and automatic answering capabilities.

Many TDDs cannot communicate with regular computers because they still use Baudot, the old TTY language. However, the next major development will be replacement of old terminals with the new TDDs that can speak a computer language (ASCII). These new TDDs will be able to transmit pictures and drawings, as well as written and typed text.[32]

An important development has been the establishment of TDD relays through which TDD users can make calls to and receive calls from persons who do not have TDDs. Most relays have been operated by private organizations and staffed by volunteers. As of June 1987, only 16 states had or were planning legislation creating relays.

Electronic Mail

Electronic mail is a rapid and emerging way to communicate, using a terminal or computer and the telephone to connect to a central computer. A person can call the service and leave a message in the receiver's mailbox to be read and responded to at the receiver's convenience. Several electronic mail-type services such as DeafNet, set up by Deaf Communications Institute, are specifically designed to serve persons who are deaf. DeafNet provides a nationwide electronic mail service through a hookup with GTE's Telenet, which serves over 250 cities in the United States. Other national information services, such as the Disabilities Forum operated through CompuServe, offer opportunities to share ideas through a network via a local call. This Forum also provides a message center and vast other information services for over 350,000 members of CompuServe.

Sensory Aid Devices

Most people are familiar with hearing aids, but few are aware of many other devices available today, and in development for tomorrow, to assist deaf individuals.

Hearing Aids

Over the last several years, the quality of hearing aid performance has improved. Early hearing aid fitting and training in developing listening skills have become common practices even in infants. An emerging development in hearing aid technology is digital signal processing.[33] For some deaf listeners, this will improve the signal-to-noise ratio so that extraneous environmental noises can be minimized.

Tactile and Other Devices

Research has demonstrated that some profoundly deaf individuals benefit from speech signals that are amplified and delivered through devices that vibrate or deliver signals in a code that is felt rather than heard.

Cochlear Implants

A relatively new sensory aid device is the cochlear implant, which supplements the function of the cochlea by using a microprocessor that simulates its function to some degree. The Food and Drug Administration has approved the use of single-channel cochlear implants in adults, and is in the process of approving their use in children. Presently, only formal research programs are allowed to place cochlear implants in children, but recent evidence is showing promising results, at least for certain causes of deafness.

The most successful wearers of the implants are postlingually deaf individuals with a fairly intact auditory nerve. Prelingually deaf persons, who have had little experience with sound, and are unfamiliar with the lexical, syntactic, and semantic aspects of spoken language, have not experienced the same benefits as have postlingually deaf persons.[34]

Current research is looking at multiple channel implants, and the possibility of implanting electrodes in higher centers of the auditory system, especially in the cochlear nuclei of the brain stem. This work may lead to more efficient speech processing and may expand the number of deaf individuals who can benefit from cochlear implants.[35]

Other Listening Enhancement Devices

Auditory training systems for deaf students promote development of speech, language, and listening skills. These systems help to overcome listening difficulties that occur when noise, distance, or reverberation are present by amplifying sound, allowing placement of the microphone as close to the signal as possible, and by delivering the sound directly to the ear.

Systems can be connected to the child's own hearing aid and allow the child to hear the teacher and classmates, as well as to monitor his or her own speech. Child-teacher mobility can be achieved by systems which carry the teacher's voice directly to the child, eliminating the need for a hard-wire connection. The most commonly used systems in most programs with students who are deaf are: (1) induction-loop systems which transmit sounds through an electromagnetic field; (2) FM systems which use radiowaves; and (3) infra-red systems which use light wave transmissions.[36] Systems can also be one-to-one, with a microphone carried by the listener.

Alerting Devices

Alerting systems include flashing light devices and vibrators that respond to the sounds emitted by doorbells, telephones, alarm clocks, smoke detectors, and baby cries. Vibrating pagers and satellite pagers which relay alpha numeric messages are also available.

Captioned Media

Captioned media have provided an increased awareness of the world and its vast store of knowledge for people who are deaf.

Captioned Films

Captioned visual media, such as videotapes, films, and slides, have been used in both residential and day school programs for over 25 years. Most special schools have media libraries or departments with captioned films and videotapes (see section on the *Captioned Films Program*). Some have TV departments for training students to produce,

direct, and edit videotape materials. A few use closed-circuit TV campuswide.

Captioned Television

Closed captioning, which can only be seen with the use of a decoder, is elaborated in the earlier section on captioned television. The captions are encoded onto Line-21 of the broadcast signal and are made visible on any TV set equipped with such decoders. Preliminary studies suggest that the growing use of captioning in the schools and homes of children and adults who are deaf is increasing their literacy levels.

The National Captioning Institute (NCI), NTID, and GU have demonstrated captioning over the broadcast airwaves and in their classrooms. In simultaneous or real-time captioning, a stenographer records the spoken word in phonetic shorthand on a typewriter-like stenotype machine. The shorthand is sent directly into a computer programmed to translate the symbols into English, and within seconds the output—captions—appears on the TV screen.[37]

Technology for Deaf/Blind Persons

Advancements have also been made in technology for persons who are deaf and blind. These include Braille TDDs, TV decoders that print in Braille (still in development), vibrating alerting devices, the Optacon (a device with a camera that reads a printed line and sends the vibrating equivalent to a special groove that the deaf/blind person feels), and the TeleBrailler and MicroBrailler (computerized paperless braille devices that can be used for telephone communication and which have lines of braille cells).

Impediments to Successful Integration of Technology in Classrooms With Students Who Are Deaf

The high costs of research and development, the frequent need for individualization of devices as opposed to mass production, and the small market for these technologies often slow their development and raise the cost even when they are available. Even the most common devices, hearing aids, are so expensive that some families cannot afford them for their children who are deaf.

Accordingly, we recommend that EHA and the Rehabilitation Act provide funds for research and development of technologies for people who are deaf. We recommend that these funds be used to help defray the high start-up costs associated with the research, development, and purchase of technological equipment and related software products.

Along the same lines, we recommend that federally funded school systems be required to purchase accessible electronic equipment. This

follows the precedent established by section 508 of the Rehabilitation Act Amendments of 1986, which requires that federal agencies purchase accessible electronic equipment.

Further, we recommend a private-public sector partnership to advance the area of speech-to-print technology. The potential that this technology could provide for deaf children and adults could be *the* major educational breakthrough of our lifetimes. In this effort, we should use the analogy of the United States drive to get a man on the moon: when this became a national priority it happened in 5 years instead of the 20 years experts predicted.[38]

Recommendation 46

The Congress should provide funds for research, development, acquisition, and maintenance of technology to be used for persons who are deaf.

Recommendation 47

Federally funded school systems should specify accessibility of electronic equipment to persons with disabilities when such equipment is procured, leased, or rented for faculty, staff, or students.

Coupled with the high cost and slow development of technology for persons who are deaf is the additional difficulty in getting information on these devices to the people who need them.

To address this, we offer two recommendations. First, that assistive devices resource centers be established or expanded, nationwide. The centers would demonstrate available devices, and provide training and technical assistance on their use. The centers should have mobile units.[39] Second, we recommend the reinstatement of national symposia on media and technology so that professionals in the field of deaf education are knowledgeable about state-of-the-art educational technology.

Recommendation 48

The Congress should support new and existing assistive devices resource centers to provide information and instruction on the latest technological advances for persons who are deaf.

Recommendation 49

The Department of Education should support national symposia on media and technology to provide information on the most recent advances in applied technology for individuals who are deaf.

Captioned Films Program

Captioned films, whether educational or entertaining, enhance true educational goals, such as language acquisition.

The Media Services and Captioned Films program (MSCF) within the Department of Education captions and distributes educational and

theatrical films and videotapes. The process of film selection, negotiations with producers, captioning, and distribution can take up to 2 years.

Educational materials—averaging 17,500 showings per month—are loaned free through 58 depositories to any school or program that registers for the service and that has at least 1 child with impaired hearing. Theatrical films—loaned to any group of six or more deaf persons who register for the service—average 8,000 showings monthly.

A representative of the Conference of Educational Administrators Serving the Deaf made observations to the Commission regarding the contractual management of the MSCF program.[40] He suggested the following administrative improvements: using up-to-date technology in the captioning and distribution process, keeping the distribution on school campuses, lessening the gap between costs incurred and reimbursements, engaging consumers who are deaf and professionals knowledgeable about deafness in all aspects of the program, making more prints available to depositories, increasing the number of new titles distributed each year, providing more information to schools about the services offered, eliminating old films while updating others, and shortening the length of time now required for film distribution.

In response to our draft recommendation that these improvements be made, the Assistant Secretary for the Department of Education indicated that administrative improvements have already been made. She said that:

> "Changes have been underway in the captioning process, i.e., computerized techniques to speed up the manufacturing of captioned negatives and 3/4" captioned video masters to produce release prints in both 16mm and 1/2" video formats. There are no plans to remove the depositories from the school campuses, and the use of 1/2" videos will eventually allow each depository to be fully stocked . . . .
>
> "Regarding the Commission's concern that the deaf community and other professionals be involved, the evaluation and selection process includes and has always included professionals, both hearing and hearing impaired, who determine which educational titles will be captioned and placed in the distribution system . . . ."[41]

The Commission commends the Department of Education for initiating these improvements, but recommends that the remaining areas be addressed.

Recommendation 50

The Department of Education should implement the following administrative improvements in the Media Services and Captioned Films program: lessen the gap between costs incurred and reimbursements, continue to make more prints available to depositories, increase the number of new titles distributed yearly, provide more information to schools about the program, continue to eliminate old films and update others, shorten the time required for distribution, and investigate the use of current technology to enhance the captioning of films and media.

We believe the Congress should consider requiring that film producers caption all their films.[42] Our goal is for all films, TV programs, and other visual entertainment media to be accessible to people who are deaf as soon as possible. We note that in the future it may be feasible to caption films automatically, eliminating the need for a separate captioning and distribution system.

[1]26 F.C.C. 2d 917 (1970).

[2]At 918-19.

[3]61 F.C.C. 2d 18 (1976), *reconsid.*, 62 F.C.C. 2d 565 (1977).

[4]*Captioning for the Deaf*, 63 F.C.C. 2d 378 (1976).

[5]Teletext services use the vertical blanking interval to transmit large amounts of data at higher speed than the Line-21 system. These data may be intended for private "closed-user group" subscribers or for public information "magazines" which may include news, weather, features, and captions.

[6]The FCC offered as its rationale for the withholding: "Because of concerns that the profit-oriented teletext service would adversely affect the nonprofit closed captioning service if the teletext service were allowed to operate on line 21 as originally proposed . . . ." NODR1 #314 (Nov. 19, 1987). With respect to a renewal for 5 years, the Commission endorses use of Line-21 for captioning, and recommends that FCC issue rules to ensure that Line-21 be transcoded to teletext during broadcast.

[7]*Teletext Transmission*, 53 RR 2d 1309, 1328-29 (1983).

[8]National Captioning Institute, Letter (Feb. 3, 1988).

[9]National Captioning Institute, Statement (Mar. 17, 1987).

[10]National Captioning Institute, Telephone conversation (Jan. 11, 1988).

[11]This number was based on the amount of television programming during the week of January 31-February 6, 1988, in the Washington, D.C. metropolitan area. The number does not include the amount of local programming by their affiliates.

[12]Federal Communications Commission, NODR1 #314 (Nov. 19, 1987).

[13]Federal Communications Commission, NODR1 #314 (Nov. 19, 1987). FCC also argued that it has not received any petition for rulemaking requesting mandatory closed captioning, indicating that its reliance upon voluntary measures is working.

[14]NBC and PBS declined to comment, stating it would be inappropriate to do so until the introduction of formal legislation or rulemaking. National Broadcasting Company, NODR1 #232 and Public Broadcasting Services, NODR1 #231 (Nov. 20, 1987).

[15]American Broadcasting Company, NODR2 #242 (Dec. 11, 1987).

[16]Columbia Broadcasting System, NODR2 #240 (Dec. 8, 1987).

[17]NCI charges $2,000-$2,500 for each hour of simultaneous captioning. While captioning is NCI's primary directive, other activities are conducted, including development, decoder distribution, and undertaking of captioning initiatives with the television industry. NCI explained that its captioning rate reflects overhead costs for these and other activities which the other captioning suppliers do not normally provide. However, these additional costs are not paid with federal captioning funds (NCI, Telephone conversation [Jan. 27, 1988]). WGBH Caption Center charges $2,500 per hour. (WGBH Caption Center, Telephone conversation [Jan. 28, 1988]).

[18]American Data Captioning, NODR1 #166 (Oct. 15, 1987).

[19]American Data Captioning.

[20]The Department of Education awarded the syndicated programming contract to WGBH Caption Center.

[21]Columbia Broadcasting System, NODR1 #240 (Dec. 8, 1987).

[22]NBC and PBS declined to comment, stating it would be inappropriate to do so until the introduction of formal legislation or rulemaking.

[23]American Broadcasting Company, NODR1 #242 (Dec. 11, 1987).

[24]American Broadcasting Company.

[25]National Captioning Institute, Statement (Mar. 17, 1987).

[26]NCI estimates that 50 percent of the 70,000 deaf children, 49 percent of 173,000 deaf adults, and 1.3 percent of 2-3 million hard-of-hearing adults have decoders.

[27]29 U.S.C. 794 (Supp. IV, 1986).

[28]R. Thorkildsen, "Microelectronic Technology and the Hearing Impaired: The Future" (Paper presented at the meeting of the National Conference on Microcomputers in the Education of the Hearing Impaired, Washington, D.C., Apr. 1985).

[29]P. Prinz, E. Pemberton, and K. Nelson, "Alpha Interactive Microcomputer System for Teaching Reading, Writing, and Communication Skills to Hearing Impaired Students" (Paper presented at the meeting of the National Conference on Microcomputers in the Education of the Hearing Impaired. Washington, D.C., Apr. 1985).

[30]Prinz, "Teaching Hearing Impaired."

[31]Prinz.

[32]A. Boothroyd, "Technological and Scientific Trends in the Management of Deafness" (Paper presented to the 1987 Conference of Educational Administrators Serving the Deaf, Santa Fe, New Mex., June 1987).

[33]Boothroyd, "Technological," p. 9.

[34]Boothroyd, "Technological."

[35]Boothroyd.

[36]J. Alpiner, "Instruments: Auditory Training." In John Van Cleve (ed.), *Gallaudet Encyclopedia of Deaf People and Deafness*(New York: McGraw-Hill Book Co., 1987).

[37]R. Stuckless, "Real-Time Captioning in Education," Unpublished manuscript (National Technical Institute for the Deaf, May 1987).

[38]G. Delgado, Statement, NODR2 #9 (Oct. 22, 1987).

[39]This recommendation supports and expands the intent of the pending Senate bill entitled "Technology to Educate Children With Handicaps Act." A similar bill has been introduced in the House.

[40]Conference of Educational Administrators Serving the Deaf, Statement (June 6, 1987).

[41]The Department of Education, NODR2 #201 (Dec. 30, 1987).

[42]C. Estes, Letter (Jan. 5, 1988).

Chapter 7

Clearinghouses and Committee on Deaf/Blindness

Clearinghouses

Current clearinghouse/information centers, including several that are federally funded, are not meeting the needs of many individuals seeking information regarding the field of deafness.

National organizations providing information on deafness include: Alexander Graham Bell Association for the Deaf, American Deafness and Rehabilitation Association, American Society for Deaf Children, Associations for Education of the Deaf, Council on Education of the Deaf, Deafness Research Foundation, National Association of the Deaf, National Center for Law and the Deaf, National Center on Employment of the Deaf, National Crisis Center for the Deaf, National Hearing Association, National Information Center on Deafness, Registry of Interpreters for the Deaf, and Self-Help for Hard of Hearing People. Other national organizations provide information about disabilities in general, including: the American Speech, Language, and Hearing Association, Association on Handicapped Student Service Programs in Postsecondary Education, the Association for Persons with Severe Handicaps, National Association of State Directors of Special Education, and the Council on Exceptional Children.

The Office of Special Education and Rehabilitation Services supports four clearinghouses: the National Clearinghouse on the Education of Handicapped Children and Youth, the National Clearinghouse on Postsecondary Education for Handicapped Individuals, the National Clearinghouse on Careers and Employment in Special Education, and a new clearinghouse for disseminating information about deaf/blind children and youth.

Despite the number of clearinghouses, there is a low level of awareness, even among medical professionals and educators, of their existence and services. Part of the reason for this is likely the fact that many—perhaps most—individuals who need information are not members of these organizations.

Also, most clearinghouses do not have toll-free phone numbers or public service announcements, and contacting them can be difficult. Several parents said they had been referred ad infinitum to other clearinghouses. Still others expressed concern some of the clearinghouses provide biased information. We recommend that the Department of Education increase public awareness of its clearinghouses by establishing toll-free numbers and providing captioned public service announcements.

Recommendation 51

The Congress should require the Department of Education to strengthen public awareness of its clearinghouses by providing toll-free access to the best of these services and by funding captioned public service announcements.

Committee on Deaf/Blindness

According to Rehabilitation and Education Experts, Inc., about 735,000 people in America have both hearing and visual impairments. They fall into four main categories: (1) 42,000 deaf/blind; (2) 25,000 deaf/visually impaired; (3) 357,000 blind/hearing impaired; and (4) 309,000 hearing/vision impaired. It is suspected that many more have not been identified. Of these numbers, approximately 4,600 children are served in federally assisted educational programs.

Deaf/blindness has far greater implications than either the loss of hearing or the loss of sight alone. However; little attention and funding have been directed toward this population.

We recommend establishment of a committee to make a study of the needs of persons who are deaf and blind, and to make a report of its findings and recommendations.

Recommendation 52

The Department of Education should establish a Committee on Deaf/Blindness to make a study of the needs of persons who are deaf and blind and to make a report of its findings and recommendations.

The Committee should have representatives from each of the following groups: (1) deaf/blind persons, (2) deaf/visually impaired persons, (3) blind/hearing impaired persons, (4) hearing/vision impaired persons, (5) educators and professionals working with these populations, and (6) parents of deaf/blind children.

An Act

To authorize quality educational programs for deaf individuals, to foster improved educational programs for deaf individuals throughout the United States, to reenact and codify certain provisions of law relating to the education of the deaf, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "Education of the Deaf Act of 1986".

TITLE III—COMMISSION ON EDUCATION OF THE DEAF

SEC.301.COMMISSION ESTABLISHED.

(a) Establishment.—There is established a Commission on Education of the Deaf to make a study of the quality of infant and early childhood education programs and of elementary, secondary, post-secondary, adult, and continuing education furnished to deaf individuals.

(b) Composition.—(1) The Commission shall be composed of 12 members as follows:

(A) Three members shall be appointed by the President.

(B) One member shall be appointed by the Comptroller General of the United States.

(C) Four of the members shall be appointed by the Speaker of the House of Representatives, with the approval of the Majority Leader and Minority Leader of the House of Representatives.

(D) Four of the members shall be appointed by the President pro tempore of the Senate, with the approval of the Majority Leader and the Minority Leader of the Senate.

(2)(A) Members of the Commission shall be appointed from among individuals who have broad experience and expertise in deafness, program evaluation, education, or rehabilitation, which experience and expertise are directly relevant to the issues to be studied by the Commission.

(B) The Chairperson shall be appointed jointly by the Speaker of the House of Representatives, with the approval of the Majority Leader and the Minority Leader of the House of Representatives, and the President pro tempore of the Senate, with the approval of the Majority Leader and the Minority Leader of the Senate.

(3) Members of the Commission may not be employed by or be a consultant to the National Technical Institute for the Deaf or Gallaudet University during their appointment as members of the Commission and may not have been so employed for a period of one year prior to appointment.

(4) Of the members appointed by the President under paragraph (1)(A), not less than 1 shall be deaf. Of the members appointed by the

Speaker of the House of Representatives under paragraph (1)(C), not less than 2 shall be deaf and not more than 2 may be from the same political party. Of the members appointed by the President pro tempore of the Senate under paragraph (1)(D), not less than 2 shall be deaf and not more than 2 may be from the same political party.

(5) Any vacancy in the Commission shall be filled in the same manner as the original appointment.

(6) Members of the Commission shall be appointed not later than 30 days after the date of enactment of this Act.

SEC.302.DUTIES OF THE COMMISSION.

(a) Study Described.—(1) The Commission shall make a study of-

(A) the degree to which appropriate postsecondary, adult, and continuing educational opportunities are available to deaf individuals;

(B) the advisability of expanding the number of federally supported postsecondary regional educational programs which serve the deaf;

(C) the training and technical assistance needs of infant and early childhood education programs and elementary, secondary, postsecondary, adult, and continuing education programs which serve the deaf;

(D) the degree to which appropriate elementary and secondary educational opportunities are available to deaf students including (i) the effects of part B of the Education of the Handicapped Act on infant and early childhood education programs and elementary and secondary educational programs for the deaf and (ii) the role played by the model secondary school for the deaf and the Kendall Demonstration Elementary School;

(E) the role and impact of research, development, dissemination, and outreach activities conducted by Gallaudet University and the National Technical Institute for the Deaf in education of the deaf;

(F) the degree to which the purposes of part F of the Education of the Handicapped Act (relating to instructional media for the handicapped) are being carried out;

(G) the problems associated with illiteracy among deaf individuals;

(H) any other issues with the Commission determines will improve the quality of infant and early education programs and elementary, secondary, postsecondary, adult and continuing education provided to the deaf; and

(I) any other recommendations to improve quality or increase cost effectiveness of providing the education of the deaf.

(2) The study of each issue described in paragraph (1) shall include a description of the findings concerning each such issue together with recommendations for actions designed to address identified needs.

(b) Reports.—The Commission shall submit to the President and to the Congress such interim reports as it deems advisable, and not later than 18 months after the date of enactment of this Act, a final report of its study and investigation together with such recommendations, including specific proposals for legislation, as the Commission deems advisable.

(c) Termination.—The Commission shall cease to exist 90 days following the submission of its final report.

SEC.303.ADMINISTRATIVE PROVISIONS.

(a) Personnel.—(1) The Commission may appoint such personnel, including a Staff Director, as the Commission deems necessary without regard to the provisions of title 5, United States Code, governing appointments in the competitive service, and such personnel may be paid without regard to the provisions of chapter 51 and subchapter III of chapter 53 of such title relating to classification and General Schedule pay rates, but no individual so appointed shall be paid in excess of the rate authorized for GS-18 of the General Schedule.

(2) The Commission is authorized to obtain the services of experts and consultants in accordance with section 3109 of title 5, United States Code.

(b) Hearings; Quorum.—(1) The Commission or, with the authorization of the Commission, any committee thereof, may, for the purpose of carrying out the provisions of this Act, hold such hearings and sit and act at such times and such places within the United States as the Commission or such committee may deem advisable.

(2) Six members of the Commission shall constitute a quorum, but a lesser number of two or more may conduct hearings.

(c) Consultation.—In carrying out its duties under this Act, the Commission shall consult with Gallaudet University, National Technical Institute for the Deaf, regional postsecondary education programs for the deaf, other programs and agencies serving or representing the interests of deaf people, Federal agencies, representatives of State and local governments, State and local educational agencies, and private organizations to the extent feasible.

(d) Information; Statistics.—(1) The Commission is authorized to secure directly from any executive department, bureau, agency, board, commission, office, independent establishment, or instrumentality (including the General Accounting Office), information, suggestions, estimates, and statistics to carry out the provisions of this title. Each such department, bureau, agency, board, commission, office, establishment, or instrumentality is authorized and directed, to the extent permitted by law, to furnish such information, suggestions, estimates, and statistics directly to the Commission, upon request made by the Chairperson.

(2) For the purpose of securing necessary data and information the Commission may enter into contracts with universities, research institutions, foundations, and other competent public or private agencies.

(e) Agency Cooperation.—(1) The heads of all Federal agencies are, to the extent not prohibited by law, directed to cooperate with the Commission in carrying out this title.

(2) The Commission is authorized to utilize, with their consent, the services, personnel, information, and facilities of other Federal, State, local and private agencies with or without reimbursement.

SEC.304.COMPENSATION OF MEMBERS.

(a) United States Officer and Employee Members.—Members of the Commission who are officers or full-time employees of the United States shall serve without compensation in addition to that received for their services as officers or employees of the United States; but they may be allowed travel expenses, including per diem in lieu of subsistence, or authorized by section 5703 of title 5, United States Code, for individuals in the Government service employed intermittently.

(b) Public Members.—Members of the Commission who are not officers or full-time employees of the United States shall receive compensation at a rate not to exceed the daily equivalent of the pay rate specified for GS-18 of the General Schedule under section 5332 of title 5, United States Code, for each day (including traveltime) during which such members are engaged in the actual performance of duties vested in the Commission. In addition, such members may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by section 5703 of title 5, United States Code, for individuals in the Government service employed intermittently.

Biographies of Commission Members

Frank G. Bowe, Ph.D., LL.D., Commission Chairperson, is Regional Commissioner, Rehabilitation Services Administration, Region II, overseeing some $150 million in programs for persons with disabilities. He received his Ph.D. in educational psychology from New York University, an M.A. from Gallaudet University, and a B.A. from Western Maryland College. In 1979, New York University granted him a Distinguished Alumni Achievement award; in 1981 Gallaudet University granted him an honorary Doctor of Laws degree.

Dr. Bowe has more than 15 years of experience as a management executive in the private for-profit, private non-profit, and public sectors. He was the first Executive Director of the American Coalition of Citizens with Disabilities, and was a Research Scientist at New York University, performing survey and experimental research on communication disorders.

Gary Austin, Ph.D., member of the Commission's Postsecondary and Adult Programs Committee, is Director and Chair of the Rehabilitation Institute at Southern Illinois University in Carbondale, Illinois. He has been an active educator, researcher, and leader in the rehabilitation of persons with disabilities for the past 20 years.

Dr. Austin planned and developed the first accredited graduate education program for the preparation of counselors working with deaf and hard-of-hearing persons.

He received his Ph.D. from Northwestern University in Evanston, Illinois, and an M.A. and B.A. from the University of Northern Colorado.

William Gainer, Chairperson of the Commission's Postsecondary and Adult Programs Committee, is an Associate Director with the U.S. General Accounting Office (GAO), Division of Human Resources. He is responsible for all of the GAO's work on employment, training, and educational issues. He earned his M.A. in mathematics from Kent State University and B.S. from Akron University. He taught mathematics at Kent State University until entering the army. After his military service, he was an operations research analyst with the Department of the Army.

Mr. Gainer joined the GAO in 1973 where he has worked in such areas as housing, international relations, military manpower, and evaluation research methodology. He has been a witness before the Congress on education and labor programs and problems, such as student financial aid, aid to developing institutions, special education, school dropouts, Job Corps training, and dislocated workers.

Gertrude S. Galloway, Chairperson of the Precollege Programs Committee, is Assistant Principal of the Maryland School for the Deaf in Columbia, Maryland. She is working on a Ph.D. in special education administration at Gallaudet University, has an M.A. in deaf education from Western Maryland College and a B.A. in education from Gallaudet University. She serves on the advisory boards for Mental Health Center and the Independent Living Association for the Deaf.

Ms. Galloway has taught at a number of schools. She was President of the National Association of the Deaf during the term of 1980-1982. She served on the State White House Conference Planning Advisory Board, was on the Maryland Commission for the Hearing-Impaired, as well as the Deafness Research Foundation Board.

She was responsible for volunteer services during the VII World Congress of the World Federation of the Deaf, was Vice-President of the Gallaudet University Alumni Association and held offices with the Maryland Association of the Deaf.

Dennis B. Gjerdingen, member of the Precollege Programs Committee, is President of Clarke School for the Deaf in Northampton, Massachusetts. He received an M.S. in 1969 in speech and hearing at the Central Institute for the Deaf (CID), Washington University, St. Louis, Missouri, where he taught graduate students as an instructor and then as an assistant professor. At the CID, he served as a teacher of the deaf, as a research assistant, and as Assistant to the Director before becoming Headmaster of the School.

In 1986, Mr. Gjerdingen became President of the Alexander Graham Bell Association. He has written extensively in the field of deafness and has had vast experience working with families of deaf children. Mr. Gjerdingen, who is hearing impaired, is the father of a profoundly deaf son who is currently in college.

Peter B. Greenough, member of the Postsecondary and Adult Programs Committee, graduated from Milton Academy, received his B.S. from Harvard University and his M.S. from Columbia University. He spent 6 years in the Air Corps during World War II as a Pilot-Intelligence Officer.

Mr. Greenough was an associate editor of the *Cleveland Plain Dealer* from 1946-1960, and went on to the *Boston Globe* as financial columnist from 1960-1969. He moved with his wife, Miss Beverly Sills, to New York in 1969.

Mr. Greenough formerly headed the Alexander Graham Bell Association Foundation. He is a director of the March of Dimes Birth Defects Foundation (since 1971) and chairs the March of Dimes Bioethics Committee. He also is a board member of the Eden Institute in Princeton, New Jersey, and heads Eden's Foundation. In addition, he is a member of the board of the New York League for the Hard of Hearing. Mr. and Mrs. Greenough are parents of two deaf children.

Patty Hughes is the Chairperson of the Executive Committee, as well as a member of the Postsecondary and Adult Programs Committee. She is from Tacoma, Washington, where she is Telecommunication Device for the Deaf Project Coordinator for the Department of Social and Health Services Office of Deaf Services. She earned an M.A. in public administration from Seattle University and a B.A. in American studies from Gallaudet University.

Ms. Hughes was the Work Leader of the Governor's Committee on Employment of the Handicapped's Work Group on Education of Deaf and Hard of Hearing Youth. She also is Chairperson of the Washington State Association of the Deaf's Legislative Committee and of Advocates of Deaf and Hard of Hearing Youth Committee and she is listed on the Washington State Registry of Interpreters for the Deaf.

William Johnson, Ph.D., member of the Precollege Programs Committee, is Superintendent of the Iowa School for the Deaf. He was the Superintendent of the Illinois School for the Deaf, where he fostered and implemented numerous innovative programs. *OMNI* magazine cited the school, in 1986, as one of the top 77 schools in the country, and the only program for deaf students so recognized. He earned a Ph.D. in special and general education administration and an M.S. in deaf education from the University of Iowa and a B.A. from the University of Denver. He has taken additional graduate courses at Oregon State University and the University of Nebraska at Omaha.

Dr. Johnson currently serves on the advisory councils of Illinois State University and Northern Illinois University. He has been a consultant to several teacher training programs and state departments of education in the midwest. He has been a board officer, and is currently a board member, of the Conference of Educational Administrators Serving the Deaf. He has been extremely active in community and state organizations, with leadership positions in more than a half dozen such organizations.

Henry Klopping, Ed.D., is Superintendent of the California School for the Deaf in Fremont, California. He served as the Commission's Vice-

Chairperson and was on the Precollege Programs Committee. From the University of Arizona, Dr. Klopping earned an M.A. in special education and Ed.D. in special education administration. He received an M.A. in supervision and administration from California State University, Northridge and his B.A. in political science from Arizona State University.

Dr. Klopping has been President of the Conference of Educational Administrators Serving the Deaf and active in many other professional organizations, including the Association for Education of the Deaf, Inc., Council on Education of the Deaf, and the National Project on Career Education.

Nanette Fabray MacDougall, lives in Pacific Palasades, California. Well known as an actress, Miss MacDougall has served on many advisory boards, including the National Committee on Education of the Deaf, the National Easter Seal Society for Crippled Children, National Mental Health Association, and the National Heart Fund.

Ms. MacDougall holds three honorary doctorates. She is a board member of the Better Hearing Institute, the National Captioning Institute, the President's Committee on Employment of the Handicapped and the National Council on the Handicapped. She served on the Precollege Programs Committee.

David J. Nelson is employed by U.S. Representative Tony Coelho, and served on the Precollege Programs Committee. He earned his AAS in data processing from the National Technical Institute for the Deaf (NTID) at the Rochester Institute of Technology (RIT), Rochester, New York. He also earned a Bachelor of Technology from the College of Applied Science and Technology at RIT.

Mr. Nelson was active with the NTID Student Congress (NSC), and with other clubs and committees at NTID. He was the NSC Delegate to the National Association of the Deaf Convention and Empire State Association of the Deaf. Mr. Nelson was co-founder and past president of the National Association of Hearing-Impaired College Students.

Mr. Nelson is profoundly deaf, the result of his having spinal meningitis at the age of 10 months. He grew up in Miami, Florida, and attended the Deaf Oral Program in Miami District Public Schools before transferring to the Florida School for the Deaf.

Gary Olsen, Executive Director of the National Association of the Deaf (NAD), resides in Indianapolis, Indiana. Mr. Olsen earned an M.A. in

education and a B.A. in history from Gallaudet University. He served on the Commission's Postsecondary and Adult Programs Committee.

Mr. Olsen formerly taught at the Kendall Demonstration Elementary School, and the Indiana School for the Deaf. He directed the Indiana School for the Deaf Prevocational Program, established the Jr. NAD Youth Leadership Camp, and founded the first National Youth Leadership Conference.

Mr. Olsen has served on the boards of the Convention of American Instructors of the Deaf and the American Coalition of Citizens with Disabilities. Currently he is on the Advisory Board of the Deafness Research Foundation, and on the Steering Committee for the Second Japan/U.S.A. Conference for Persons with Disabilities.

Sharon J. Speck, who served on the Postsecondary and Adult Programs Committee, is a registered nurse and active as the wife of the interim president of a mid-western college. She received her B.S.N. from Case Western Reserve University and her British nursing registration after completing work in Zimbabwe. She has held a number of positions practicing and teaching nursing in hospitals, nursing homes, and college settings in the United States and Africa.

Ms. Speck was a partner in her husband's successful campaigns for the Ohio House and Senate. She served on the State Board of the Ohio Federation of Republican Women and the State Environmental Quality Committee of the Ohio League of Women Voters. She is now serving on the Ohio Rehabilitation Services Commission Advisory Committee on Deafness and Hearing Impairment.

Ms. Speck has impaired hearing and vision. She presently is assisting in organizing a Self Help for Hard of Hearing People (SHHH) chapter in Southeastern Ohio, and works as a volunteer with hearing-impaired children in the Zanesville City School system.

For copies of this report and the accompanying appendix write to

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U.S. Government Printing Office
Washington, DC 20402

Toward Equality: Education of the Deaf
February 1988

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